ENGINEERING and MINING JOURNAL.

VOL. XXVII., NO. 18.

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AMERICAN SOCIETY OF CIVIL ENGINEERS.

The Eleventh Annual Convention will be held at Cleveland, Ohio, beginning June 17th, 1879.

Details of programme will be issued to members in a short time.

JOHN BOGART, Secretary.

THE AMERICAN IRON AND STEEL ASSOCIATION.

Special arrangements for reduced fares have been made for the Mass Meeting of the Iron Trade at Pittsburg, on May 6th, with the Pennsylvania Railroad Company, over its main line and Eastern connections, extending from Baltimore on the south to Boston on the east. Gentlemen desiring to avail themselves of low rates of fare can, by addressing this office, procure orders for excursion tickets. Without these orders, nobody can obtain excursion tickets from ticket agents. JAMES M. SWANK,

PHILADELPHIA, April 22, 1879. Secretary.

AMERICAN INSTITUTE OF MINING ENGINEERS.

The next meeting of the Institute will be held in Pittsburg, beginning Tuesday, May 13th, at three o'clock P.M.

Due notice will be given of the programme of the meeting as arranged by the local committee.

Members and associates are requested to give early notice to the Secretary of their intention to read papers at the meeting.

It is expected that the excursions will be of an attractive character, and that there will be a large attendance of ladies.

THOMAS M. DROWN, Secretary.

"The San Francisco *Stock Report* of April 21st contains the following paragraph:

"'RICHARD P. ROTHWELL, managing editor of the New York *Graphic*, will shortly make an extended tour through the Western mining districts.'"

On which the *Graphic* remarks:

"This is an error. Mr. ROTHWELL has no connection whatever with the *Graphic*, and never has had any."

We take pleasure in confirming the statement of the *Graphic*, and thank it for its readiness to do justice to the reputation of an editorial brother, at whatever cost to its own. *

OUR EXPORTS AND IMPORTS.

According to the report of JOSEPH NIMO, Jr., Chief of the Bureau of Statistics, our exports exceeded our imports in the month of March, $24,198,963, and in the same month last year, $34,088,707. For the nine months ended March 31st, the excess was $229,131,589, and for the same period ending a year earlier, $203,114,701. For the twelve months ended March 31st, the excess was $283,831,122, and for the year ended March 31st, 1878, it was $199,490,803.

WEAR OF AMERICAN RAILS.

We have heard, since the excitement about Mr. VANDERBILT's rail-purchase began, many official statements, testifying to the excellence of American steel rails from various mills. Among others, we may mention that of an officer in the technical department of the Lake Shore Railway, one of the Vanderbilt roads, who says that the rails of the Edgar Thomson Steel Company, put in the Lake Shore track two years ago, have given unqualified satisfaction as to wear thus far, and that not one rail of the lot has broken. *

PRICES OF ENGLISH RAILS.

Messrs. JOHN H. AUSTIN & Co., of London, under date of April 15th, quote ordinary iron rails f. o. b. Wales, or on the Tyne or Tees, at £4 10s. They quote steel rails, according to section, weight, and specification, at £4 15s.@£5 5s. f. o. b. Liverpool and £4 10s.@£4 15s. f. o. b. Wales, etc. They say: "Our quotations for iron rails are of course quite nominal, steel rails in some instances being sold at even lower rates than the same description of rails would be obtainable at in iron. The market continues dull."

AN AMERICAN MINE INCORPORATED IN FRANCE.

According to the London *Mining Journal*, the Consolidated Amador Volcano Hydraulic Gold Mining Company, of California, has been changed into a French corporation. This company had a capital of $1,000,000, divided into 10,000 shares of $100 each. In January, a dividend of $10 per share was declared. Two years ago, a number of French capitalists purchased 4800 shares, and have lately purchased from Mr. CHARLES MCLAUGHLIN, of San Francisco, and his associates, the remaining 5200 shares. The new company is called La Compagnie des Mines d'Or et d'Amador Volcano (Californie), and has a capital of 5,000,000 francs, divided into 10,000 shares of 500 francs each. Messrs. BOUVIER Frères offer 5200 shares at 600 francs each. Among the directors of the new company are M. FRANÇOIS J. TURGAN, M. HENRY DE PARVILLE, editor of the *Journal Officiel* and the *Journal des Débats*, BARON WATTEVILLE, late director at the Ministry of Public Instruction, and M. ALBERT RABOU, editor of *La France*.

AMERICAN INSTITUTE OF MINING ENGINEERS.

PROGRAMME OF THE PITTSBURG MEETING.

Local Committee of Arrangements.—William Metcalf, Chairman.

Finance Committee.—James Park, Jr., William P. Shinn, William Metcalf.

Committee on Transportation.—William P. Shinn, F. B. Laughlin, H. E. Collins.

Committee on Refreshments.—John H. Ricketson, Thomas M. Carnegie, John L. Gill.

Committee on Directory.—William Kent.

Secretary and Treasurer.—Joseph D. Weeks.

The above Committee have adopted the following schedule:

TUESDAY—Sessions for reading and discussion of papers at 3 P.M. and 7.30 P.M.

WEDNESDAY—Boat excursion at 8.30 A.M., continuing until 6.30 P.M. During this excursion, several of the industrial works located on the river will be visited, and also the Davis Island Dam, if the stage of water permits. Evening session at 7.30.

THURSDAY—Excursion by the Allegheny Valley Railroad, from 8.30 A.M. to 4 P.M., visiting industrial works and City Water-Works located on that line of railroad. In the evening there will be a reception at the house of Mr. William P. Shinn (situated in the suburbs of the city) of the members and ladies accompanying them.

FRIDAY—Closing session from 9 to 12 A.M. Excursion by Pennsylvania Railroad and Baltimore & Ohio Railroad, from 2 to 6 P.M. In the evening there will be a subscription-dinner.

SATURDAY—Members have the choice of two excursions arranged for this day, namely, to the oil regions of Butler County, via West Pennsylvania Railroad, Parker & Karns City Railroad (narrow gauge), and returning via Allegheny Valley Railroad; or, to the coke regions in the vicinity of Connellsville via Baltimore & Ohio Railroad. Members will be returned from both these excursions in time to take the trains East and West.

Arrangements have been made with the proprietors of the Monon-

gahela House and Seventh Avenue Hotel for reduced rates of board to members. The head-quarters of the Council of the Institute will be at the Monongahela House. The meetings of the Institute will be held at the rooms of the Western Iron and Nail Associations, No. 77 Fourth avenue. The members and associates of the Institute will be provided with badges by the Committee of Arrangements. The local members will be designated by a blue ribbon attached to the metal badge; the active members of the Committee of Arrangements will be designated by a red ribbon attached to the metal badge. Arrangements will be made for ladies accompanying the members to participate in all the excursions.

The following papers have been announced: Fire-brick Stoves, by J. M. Hartman, Philadelphia; Hygiene of Mines, by Dr. R. W. Raymond, New York City; Catalan Forges of Northern New York, by Prof. Thomas Egleston, New York City; The Classification of the Original Rocks, by Thomas Macfarlane, Wyandotte, Mich.; A Combined Cylindrical Shader and Section Liner, by Prof. J. H. Harden, Philadelphia; A New Revolving Spiral Screen, by Prof. J. H. Harden; The Geologic Age of the Oil Sands, by H. Martyn Chance, Philadelphia; Petroleum and Artesian Wells, by C. Henry Roney, Philadelphia; Phosphorus in Bituminous Coal, by Andrew S. McCreath, Harrisburg, Pa. The discussion of Dr. Dudley's papers on Steel Rails, begun at the Baltimore meeting, will be continued at this meeting. At the request of the resident members in Pittsburg, Mr. William P. Shinn has prepared a paper on Statistics of Pittsburg Manufactures.

Members going to the meeting from the East and North can obtain orders for excursion tickets at reduced rates over the Pennsylvania Railroad, from the undersigned. Trains leave New York at 9 A.M., 6 and 8.30 P.M.; trains leave Philadelphia at 11.45 A.M., and 6.30, 9.10, and 11.45 P.M. The fare from New York and return will be $18.75; from Philadelphia and return, $15. THOMAS M. DROWN, Secretary.

LAFAYETTE COLLEGE, EASTON, PA., April 30, 1879.

SUBMARINE TELEPHONY.

A paper read before the Society of Civil Engineers by Mr. CHARLES WARD RAYMOND, and published in the *Engineering News* of April 12th, describes the experiments of the author in telephonic communication with divers. Mr. RAYMOND is an engineer in the Department of Docks, in this city; and the submarine work connected with the construction of the bulkhead wall now in progress furnished him in September last the opportunity to carry out the idea he had conceived some months before. The arrangement first employed consisted of two Phelps telephones, which, being oval and flat, are convenient for this purpose. One of these was fastened in the diver's helmet, in such a position that by simply turning his head the diver could place his mouth or his ear to the instrument. The other was placed on the scow which carried the assistants and the air-pump; and the two were connected by means of insulated wires inside the air-hose.

This was found to work very well, so far as communication from the diver to his helper was concerned; but there was difficulty in sending messages the other way, since the bubbling of the air as it escaped from the helmet into the water interfered with the diver's hearing of the telephone. This difficulty was overcome by the use of EDISON'S "carbon-transmitter," which rendered the sound so much more audible that conversation could be carried on with the utmost facility. It was found that the diver could talk in the helmet without putting his mouth to the instrument, and be heard plainly, so that work and conversation could go on at the same time.

In the discussion upon Mr. RAYMOND'S paper, it was asserted that the cost of the necessary outfit for telephonic communication of this sort would be about one hundred dollars, and that, on the other hand, the work of a diver with ordinary means of communication costs about three dollars per hour. The saving of time effected by this means of quick and full transmission of intelligence would evidently soon repay the original outlay.

This ingenious application of the telephone reflects credit upon the young engineer who has both conceived the idea and perfected the details. We think it probable that a similar arrangement will be found a valuable adjunct to the telephonic signals in mines, where it is not always easy to hear the comparatively feeble sounds of the ordinary instrument. *

CHIMNEYS AND STRIATIONS.

In an address delivered before the Bullion Club by Mr. J. E. CLAYTON, of Utah, we find the following:

"But suppose no deep explorations have been made, can the pitch or downward trend of an ore-chute be ascertained in *advance* of such explorations? I answer, *Yes.* The structure of the lode, and the *lines of movement* shown on its walls indicate the pitch of the chimneys.

"It is now a pretty well-established fact that the line of deposit in a lode, and the line of movement on its walls, are coincident in direction. By examining the stria or grooves on the walls of a true vein, you will see the *direction* of the movement and line of deposit. Nature has left a record of *all* her movements, and we need not go astray if we read the record intelligently. I believe I was the first engineer on the Pacific coast to call attention to the fact that the *pitch* of *ore-chutes* was in the same general direction as the *lines of movement* are marked on the walls of a lode. (I published the result of my observations of this interesting fact in 1856 in the *Mariposa Gazette* and the *Stockton Republican* in California.)"

This is a very interesting and important principle, if true. That Mr. CLAYTON believes it, has been known to his colleagues in the profession for many years. But we do not think it is generally accepted; and in the form which he gives it, we are not able to admit its validity.

1. The occurrence of striations on the walls of ore-deposits, indicating the movements of the walls, either upon each other, before the ore was deposited, or upon the vein-material, is not confined to any particular kind of deposit or of ore.

2. The occurrence of ore in *chutes* or chimneys is equally common to all kinds of ore, and to beds as well as fissure veins. But the only known relation between such ore-bodies and the movements of the inclosing rock is that of which some New Jersey iron mines afford the best illustration, namely, the lateral dislocation of portions of a once continuous deposit. But in such cases, the movement is not at all parallel to the axis of the chimney.

3. No other relation is known, as we have said; but as we understand Mr. CLAYTON, he infers one, from repeated observations of a coincidence between the pitch of ore-bodies and the striations of the inclosing walls. We have seen no theoretical explanation of this alleged general fact; and so far as our observation goes, the fact itself needs further proof, and its statement should be qualified.

4. In a large number of cases, what is called an ore-chute is not a body of material different from the rest of the vein-matter, nor a body occupying a portion of the deposit locally different in shape or dimensions from the rest, but simply a portion of the vein-material which pays better than the rest. In the case of gold-ores, a very minute variation in a very minute proportion of the precious metal bridges the distinction between practically barren rock and pay-ore. It is not probable that such ore-chutes depend for their pitch upon the small movements of the rock which produce striations; and it is not even certain that they are generally elongated bodies; having any definite pitch. We have known such chimneys to pitch both ways in the same vein, to come together, to separate, and to disregard striations with glorious recklessness.

5. Where the ore-chutes are zones of mineral, more concentrated than occurs outside of them in the vein, and where such mineral is the result of percolating solutions, the direction in which such solutions could most easily penetrate, or in which they would be most easily precipitated, must have determined the form of the resulting accumulations of ore. In the case of an open or partly open fissure, gradually filling up with mineral matter, the movement of either wall may determine the local "bulges" and "pinches" of the fissure, and thus prepare spaces, sometimes roughly parallel, in which ore may acoumulate. But striations from this period of vein-formation are probably rare; and if they could be found, they would be, in our opinion, more likely to cross the axes of the wider spaces than to coincide with them.

6. After a vein-fissure has been filled, the question, whether small movements of either wall would follow the direction of the pitch of the ore-bodies depends, as it seems to us, upon the relative hardness of the parts of the vein-material which resist such motion. If the valuable ore lies in zones which are considerably harder or softer than the rest of the vein, the slight shifting of the wall may conceivably be affected by this inequality of resistance. In that case, we should have, perhaps, the phenomenon of CLAYTON'S law. But, as we have sufficiently shown, the law has but a slender foundation, and can have but a precarious application. *

PERSONALS.

Our Readers are invited to send us Items for this Column.

Professor W. P. BLAKE left San Francisco for Arizona on the 22d ult. His address for a short time will be Yuma. A. T.

Mr. E. B. LATIMER has been appointed the coal accountant at Fair Haven, N. Y., by the Southern Central Railroad Company.

Professor J. S. NEWBERRY delivered a lecture before the Bullion Club on Thursday night. His subject was, "Precious Metals in the United States."

The Central City (Colo.) *Register-Call* of April 25th, in an unusually large number, gives a vast amount of information of the Gilpin County mines.

The entrance examinations of the Massachusetts Institute of Technology will take place June 2d and 3d, and September 24th and 25th. See announcement in our advertising columns.

We learn by telegraph that R. P. ROTHWELL, M.E., C.E., editor of this paper, has reached Salt Lake City, *en route* to mines in Southern Utah, upon which he is engaged to make a report. Those desiring his services while in Utah, or later, in Montana, Colorado, and Dakota, can address this office.

NEW PUBLICATIONS.

AMERICAN RAILWAY-PRACTICE (*Betriebseinrichtungen auf Amerikanischen Eisenbahnen*). *Prepared for the Prussian Department of Commerce, Trade and Public Works by* H. BARTELS, *Royal Inspector of Railway Construction and Practice.* PART I. DEPOTS AND SIGNALS. Berlin, 1879.

Mr. H. BARTELS, Inspector of German Railroads, who was a commissioner to the Centennial Exhibition, was, in addition to his official duties in that capacity, charged by his government with the examination of the railroads of this country. After having published two pamphlets on this subject, he now presents us with the first part of his more extensive work—a handsome volume, profusely illustrated, and devoted to depots and signals.

Mr. BARTEL'S information was obtained during several trips, of which the two longest occupied over three and four weeks each. In July, 1876, he examined the Pennsylvania, the Pittsburg, Fort Wayne & Chicago, the Chicago & Northwestern, and the Pacific railroads; passing from Philadelphia, via Chicago, to Omaha and San Francisco. On his return eastward, he visited the Denver Pacific, the Denver and Rio Grande, the Colorado Central, the Kansas Pacific, and the Missouri Pacific roads. In January, 1877, by way of the Baltimore & Ohio, he visited Baltimore, Cumberland, Cincinnati, St. Louis, and Chicago; returning on the Lake Shore & Michigan Southern, via Cleveland, to Buffalo, and from there by the New York Central to New York. Subsequently he examined the Philadelphia & Reading Railroad. Gifted, on one hand, with the keen observing power of an accomplished railroad-engineer, and on the other with the enviable talent of properly and clearly describing what he has seen, he draws at every opportunity valuable parallels between our railroad systems and those of Germany.

In the first part of his book, he fully describes more than a dozen of the larger stations, dwelling particularly on those at Pittsburg, Altoona, Harrisburg, and West Philadelphia, with all their buildings and accessories. This part comprises five chapters, devoted respectively to the description of particular stations; to the characteristics of American depots in general; to passenger-depots; to freight-depots; and to the general accessories. Under the latter head, he enumerates locomotive-houses, water-stations, coal-sheds, repair-shops, switches, turn-tables, coal-scales, etc.

The second part treats of signals and the different modes of signaling. First, a full description is given of the various signals; of the fixed and portable ones; of switch-signals; of the combined switch and signal-apparatus, and finally of the telegraphic and telephonic signals. Six pages are devoted to synoptic tables, containing a comparison between the forms of signals used by the Pennsylvania Railroad, the Philadelphia & Reading, and the Kansas Pacific. The signals used on these different roads are again compared with the signals of the German railroads, according to the general code, established in January, 1875. Among others, the signals of the Pennsylvania road are treated in full, and a discussion is given of the instructions for the signal-tower men.

The concluding chapter is exclusively devoted to "remarks relating to the mode of giving signals," and is accompanied with a table of the functions of the electric signal, the semaphore, and the box-signal. Another table gives the indicators of the Rousseau system, and their various combinations.

Appended to the volume are thirteen folding-plates, with the ground-plans of eight depots and longitudinal and cross-sections of their structures. There are also numerous wood-cuts in the text.

Mr. BARTEL'S investigations have given him a favorable impression of American railway practice; and we are glad to find that he considers many American ideas worthy of adoption in his native country. He acknowledges warmly the many favors he received from American engineers and railroad managers, declaring that without their kind assistance he could never have accomplished the task intrusted to him. But be his obligations in this regard what they may, the engineering profession owes to him a debt of gratitude for the valuable information he has condensed in the pages of his work, which we warmly recommend to all interested in the construction and management of railroads. E. B.

THE GOLD-MINING DISTRICT OF DAHLONEGA GA.

EDITOR ENGINEERING AND MINING JOURNAL:

SIR: Inclosed please find card from Mr. Kelly relating to the ditch question. Not wishing to trouble you with a war of words, we propose to let all controversy rest upon its merits. Please give this and Col. Kelly's card space in your valuable journal, and oblige

L. L. LOMBARD,
President Dahlonega Gold Mining Co.

NEW YORK, May 1, 1879.

NEW YORK, April 26, 1879.

EDITOR ENGINEERING AND MINING JOURNAL:

SIR: My attention has been called to an article in your valuable journal, by a Mr. A. Davidson, President of the Etowah Battle Branch H. H. Company, of Georgia, claiming to own a certain ditch made by me in 1859, and now held by the Dahlonega Gold Mining Company, under warranty deed from me and Col. Wimpy, my attorney. The deed of mine to Eastman and others, alluded to, gives them the two lots and the mill conveyed, and nothing more, nor was it ever claimed to have any thing to do with my ditch, until recently that company was organized and now lays claim to said ditch, much to my surprise. The records at Dahlonega, Lumpin County, show my title to the ditch, and the only conveyance I ever made is now held by the Dahlonega Company.

(Signed) H. KELLY.

[NOTE.—Mr. Davidson learned that Mr. Lombard had written a letter in reply to his in the number of the 19th inst., and called on us in reference to the matter. We showed him Mr. Lombard's letter, to which he replied. Hence the two letters in one number.—ED.]

NOTES ON ZINC SMELTING.

Written for the Engineering and Mining Journal by F. A. Thum.

(*Continued from page* 275.)

COST OF PRODUCTION.

To introduce zinc smelting anywhere, the main requisites for the process must necessarily be obtainable at an encouraging rate, which of course, *a priori*, depends upon the price of the metal and the value of ore. If the latter can be secured at a certain price, and of a constant percentage, the amount available for its treatment is:

$$W = \frac{(A - L)\ |Z - (c + p)|}{100} - M,$$

and it will then be the chief question to ascertain the cost of treatment with all possible precision.

We may generally, and independently of any smelting system or particular arrangement, say that in the present state of zinc metallurgy, for every ton of ore passing through the process, we require two tons of coal of middling quality (of about 7000 calories heating power) or of other fuel in proportion to this; 5½ days of 12 hours' day-work; 0·2 ton of good fire-clay; and about $1 to $1.25 for smaller items. If we add to the amount of this the fixed expenses as above suggested, the cost "W" may approximately be determined for any locality. It is, for Belgium and the Rhine district as well as for England, on an average, about £2 10s. per ton of ore, and for Silesia not much more than half of that amount.

This relates to the treatment of calcined ore, blende as well as calamine. On raw weight, the working expenses vary somewhat according to the additional cost of calcination C per ton of raw ore and according to the loss in weight l during such process, in units of hundreds on raw weight, namely:

$$W\left(1 - \frac{l}{100}\right) + C$$

It is clear that if

$$\frac{W\,l}{100} = C,$$

the cost of calcination will be compensated by the reduction in weight during calcination and the subsequent enrichment of the ore.

By expelling water and carbonic acid, the volatile products of the calcination of calamine, or sulphur, that of blende, the remaining calcined ore of course rises in percentage of zinc, and allows, under equal charges, a larger production of metal and a smaller amount for working expenses per ton of ore in the furnace. Calamine frequently loses 30 and more per cent in weight during calcination; and the cost W, as derived from the above formula and as used in the valuation of ore, if applied to raw weight, will generally turn out lower than for the calcined, as the cost of calcination is small. Complementary herewith, the value of calamine itself is relatively higher in the raw than in the calcined state. On the other hand, the cost of carriage to the works naturally increases for raw ore proportionately with the loss in calcination. If we express the value of calcined ore by the formula

$$M = \frac{0{\cdot}8\,A\,[Z - (c + p)]}{100} - W + t,$$

in which t represents the cost of carriage per ton in raw ore to the smelting works, we must have

$$M = 0{\cdot}8\,A\,[Z - (c + p)] - [W\left(1 - \frac{l}{100}\right) + C] + \frac{100\,t}{100\,l}$$

Say, for instance, the cost W = smelting expenses per ton of calcined ore amounts to £3, and the cost of calcination C, per ton of raw calamine to £0·1, then, if one ton of calcined calamine, with 50 per cent of zinc (by analysis) is worth £5, including £1 for carriage from the mine or calcination-place, the value of raw ore of the same percentage must be as follows:

Loss in calcination.	Value at the mine.	Value at the works.	Loss in calcination.	Value at the mine.	Value at the works.
10 per cent	£4·089	£5·20	25 " "	4·317	5·65
15 " "	4·174	5·35	30 " "	4·372	5·80
20 " "	4·250	5·50	35 " "	4·412	5·95

In applying the same figures to blende, with the difference that the cost for grinding and calcining are say £0·5 per ton of raw ore, and the loss in weight by calcination is only about 15 per cent, we arrive, according to the same formula, at—

	At the mine.	At the works.
For raw blende.....	£3·774	£4·95
For calcined blende.....	4·000	5·00

For the calcination of calamine in lumps, treated in large cupola-kilns, the consumption of coal should not exceed 4 per cent, and that of labor not 8 twelve-hour shifts per 100 tons of raw stuff. For dressed calamine (of small size), which mostly requires reverberatory furnaces, these figures increase to 10 per cent of coal and 30 shifts per 100 tons.

With regard to blende, the calcination of which is much more important and difficult than that of calamine, and which requires, first of all, grinding through a fine sieve (with holes not larger than 3 millimeters), we have to allow half a horse-power and 0·075 shifts per hour and ton of raw ore to grind; while, for the desulphurization, 67 per cent of coal and one shift for every ton of raw ore are necessary at the reverberatory furnaces as generally used. However, if the extent of the works permits, tubular revolving kilns may be applied very advantageously for the latter purpose; in which case, only one quarter of the above coal and labor will be required. It hardly need be said that works of a certain capacity in zinc smelting are quite essential for financial success; yet it is in this that most frequently blunders are and have been

made. Unlike other metallurgical processes, zinc smelting can be started on a comparatively small scale, especially by adhering to old-fashioned systems, transplanted from Belgium or Silesia 15 or 20 years ago, and then frequently modified in a way any thing but fortunate, as, for instance, the modification of Belgian furnaces for 24 hours' work. It apparently requires only a trifling outlay of capital to start with a few small furnaces, to which subsequently many other things must be added equally necessary for small as for large works. In face of this, and with the final recognition that only a certain amount of outlay will yield satisfactory interest, the works may be increased and rebuilt, but they remain forever unsystematic.

In order to meet competition with Belgium and Silesia successfully in our day, works must be carried out on a large scale; their location must be carefully chosen in accordance with the requisites of the process and of transportation of the products, and the furnaces especially must be as perfect as the progress of experience will permit.

We require, in zinc smelting, a comparatively large quantity of raw material, which, according to the percentage of zinc in the ore, may vary between 9 and 25 times the weight of the metal produced. Without regard to loam and water, not included in the above, and which we have always to look for in closest proximity to the works, and without regard to the removal of products and refuse, these figures sufficiently show that the question of transportation and a proper selection of the place for new works are of considerable importance. But while for small enterprises, generally little or nothing is or can be done to reduce these ever-running expenses to a minimum influence upon the balance of accounts, it is with the growing extent of the works that the necessary outlays in that direction more and more quickly repay themselves. If, by laying down a locomotive railway, we save one shilling per ton of raw material, of which rarely less than 12 times the weight of the produced zinc is required, it will, for an annual metal production of 1000 tons, repay £600 per year; the same arrangement and outlay, however, may probably be sufficient for five times that quantity of raw material, and the annual saving will then increase to £3000.

An equally simple calculation shows the advantages of perfect arrangement of the works, by a fairly corresponding function of which much labor and time in general may be saved; and much more, of course, is this the case with a proper arrangement of the furnaces and their outfit.

All practical experience in zinc smelting leads to the use of large-sized furnaces, by which the quantity of coal has been gradually reduced nearly to an equal weight with that of the ore charged, against three or even four times that quantity in former days, besides a saving in labor and other items. The enlargement of the furnaces has increased the daily charge of ore at many works in Silesia up to 5 and 6 tons from 14 to 16 cwts. 10 or 15 years ago, and the eagerness with which one establishment over-bids the other in thorough renovation regardless of cost sufficiently proves the financial importance of the matter.

A similar state of things is met with in Belgium and on the Rhine, although, undoubtedly, the Belgian system has been far surpassed by the Silesian in recent years. The enlargement of the real Belgian furnace with cylindrical retorts (and this is the only suitable shape for a retort wholly suspended over the fire), during the last twenty years is trifling compared with that of the Silesian; and, on the whole, I think that the Belgian furnace will before long become extinct.

This may be anticipated for several reasons. In the first place, the whole arrangement of the furnace is of a kind which makes its enlargement, and at the same time the application of gas for the heating, much more difficult than in the other system; the greatest drawback, however, lies in the peculiarity of its 12-hour charges. For a long time, this has been one of the chief advantages of the furnace; and in the hands of experienced workmen it still almost permits of competition with the results of most other furnaces. It is by this quick discharging and charging that a comparatively large quantity can be worked through with a low consumption of fuel; but this requires extraordinary endurance and experience in the attendants, and the difficulty of the work quickly increases with the enlargement of the furnaces; for, in order to secure the necessary time for the distillation of the zinc, the charging, discharging, replacing bad retorts, and frequent repairs should be carried out along with the collection of the metal just as quickly at a large as at a small furnace. On the other hand, it is a mistake to use Belgian furnaces for 24-hours' work. The corrosive slag, always formed within the charge during ing the distillation, is with 12-hour runs far less injurious to the retorts than in 24-hour runs. This is the more important as the Belgian retorts are wholly suspended over the fire, which narrowly limits their length and shape—in short, their capacity. Experience has amply proved that the tubular shape of the retorts for the Belgian furnace is the only practical one; it is also the cheapest; and if one begins to employ muffle-shaped retorts for the furnace, it is undoubtedly better to abandon the Belgian system altogether, and to rest them upon a solid support, which gives the great advantage of permitting almost any length, and also greater height (the width should invariably be kept 6½ inches), than if suspended in rows one above another. The weight of the charge and of a large retort itself, if suspended over a white-heat fire, overcomes the resistance even of the very best fire-clay.

(TO BE CONTINUED.)

EDISON'S ELECTRIC LIGHT.—Mr. Edison is working on a new generator, seeking to secure greater simplicity and effectiveness. Some months will probably elapse before the light will be ready for commercial use. "There are hundreds of things," lately remarked Mr. Edison, "in connection with the electric light, and they require time." Mr. Edison appears to contemplate the use of double shaped glass globes, containing alum water, or other bad conductor of heat, so as to retain nearly the full heat of the flame. For turning the light off or on, it will simply be necessary to revolve, wholly or partially, a circular piece of metal attached to the under part of the lamp. The precise arrangement of the circuits has not been fully determined. Letters continue to be addressed to American and foreign journals adducing facts to prove that Mr. Edison was not the first to determine the divisibility of the electric light; but he has never claimed this, but simply that he has discovered the means by which this capability of division may be best put to account, each light being rendered independent of all others, and the electricity accurately regulated,

STEEL-MAKING IN CLEVELAND, ENGLAND.

The following interesting letter, concerning the dephosphorization of the Cleveland pig-iron, was written by the Middlesbrough correspondent of the London *Daily News*, and appeared in that paper on the 12th of April last:

The important announcement which was made on Saturday last in the *Daily News* respecting the success of the process for converting Cleveland iron into steel, adopted by Messrs. Bolckow, Vaughan & Co. (Limited), has now been widely and carefully discussed. The key-note of an entire change in the iron industry has no doubt been sounded. But the sudden revulsion from the despair induced by fast departing trade to the hope aroused by a prospect of glorious success has produced a sanguine feeling which may perhaps paint in a too roseate hue the undeniably great advantages which will accrue to the Cleveland district from the manufacture of steel. For many years, attention has been directed to the desirability of bringing the cheap and poorer iron ores into a condition of fitness for the production of high-class iron, or even steel. It has only been, however, within the last six or seven years that steel has become a rival to iron in the heavy branches of manufacture, and consequently the importance of discovering some refining process did not till then become urgent. Many processes have been projected and applied, but the only one from which much was hoped was that with which the name of Mr. I. L. Bell, M.P., is associated. The difficulty which has presented itself to all experimenters in the purification of iron has been the elimination of the phosphorus; for, although pig-iron contains several other impurities, phosphorus is that which chiefly unfits it for steel production. Sulphur is an impurity which acts as a deterrent, but comparatively little difficulty is experienced in removing it. It has therefore been toward the elimination of phosphorus that the endeavors of all those who have sought to produce steel from inferior qualities of ore have been directed. And at a very early period in the history of these experiments, it was found that at a low temperature the phosphorus, under the ordinary conditions of the puddling-furnace, passed from the iron into the oxide of iron employed. A variety of expedients had been adopted to attain that end, the object being the production of wrought-iron free from phosphorus. Mr. Bell's experiments were devoted to an entirely different purpose, that, namely, of getting rid of the phosphorus while leaving the iron in such a condition as still to merit the name of pig-iron, that is to say, with the whole of the silicon but little of the carbon displaced. It was essential in Mr. Bell's process that when the phosphorus had gone the iron should still remain in a fluid condition. Having satisfied himself that there would, in a properly-constructed apparatus, be little or no difficulty in removing as much of the phosphorus as was necessary to render Cleveland iron fit for steel-making, his more recent experiments were directed to retaining the greater portion of the carbon. The world has been given to understand, though on no direct authority, that this measure of success has been attained, and that Mr. Bell hopes to be able to obtain a material sufficiently fusible for all practical purposes, containing enough carbon, say 3¼ per cent, and being so free from phosphorus as to be available in the Martin-Siemens process.

So much was known before the experiments which Messrs. Bolckow, Vaughan & Co. were making in another direction at Middlesbrough were sufficiently advanced to warrant them in making any announcements with regard to them. Indeed, faith was very weak in the process of Messrs. Thomas and Gilchrist, and considerable incredulity was expressed at the Iron and Steel Institute when the matter was broached. The initial experiments were made by Messrs. Thomas and Gilchrist at the Blaenavon works, where the first bricks—which are used in the process—were made. At these works, under the able managership of Mr. Edward Martin, nearly the whole of the experiments that are quoted in the paper of Messrs. Thomas and Gilchrist presented at the Paris meeting of the Iron and Steel Institute were perfected. Messrs. Bolckow, Vaughan & Co., guided by their general manager, Mr. E. Windsor Richards, who long since made a name as the resuscitator of spiegeleisen (or mirror-iron) in this country, then took the process in hand and determined fully to test it. A slight digression at this point may be necessary in order to better illustrate this process. In the ordinary puddling-furnace the accepted explanation of the phenomena is that at an early period in the process the phosphorus passes from the iron into the oxide of iron with which it finds itself in contact. The puddling-furnace has a basic oxide lining—that is, one made of the purest forms of oxide of iron that are commercially available—and an iron basic slag is produced during the operation which retains the phosphorus. There have been many attempts made to eliminate the phosphorus in the Bessemer converter. But in all the attempts that have been made when the vessel is lined with a gannister—that is, a siliceous lining—no phosphorus has been removed. That was due, not as some say, to the intense temperature existing in the vessel, but to the fact that under no conditions whatever can the experimenter retain a basic cinder in an acid-lined converter. For even if a large amount of base—that is, oxide of iron or lime—be added during the blow when an acid lining is used, the affinity of this base at a very great temperature is so great for the acid lining that it at once attacks it and produces a siliceous cinder, The basic oxide lining that is available for the puddling-furnace is not, however, sufficiently infusible to be serviceable in the Bessemer converter. The basic lining used on Friday, the 4th inst., was one made of bricks produced by firing at a very intense temperature a magnesium limestone of suitable composition. These bricks both withstand the very intense temperature in the converter, which is that of molten wrought-iron, and the wearing action of the iron and the cinder. By using this lining, and by also adding during the operation some lime, the metal was blown in the usual manner, and good steel resulted. This was due to the fact that a basic cinder was produced and retained during the operation, and this basic cinder retained the phosphoric acid produced by the oxygen of the blast burning the phosphorus into phosphoric acid. For under these conditions—that is, having a basic cinder on the iron blown—phosphorus, like silicon and carbon, can be readily burnt out, the desideratum required. The tests to which the steel produced were submitted were sufficient to prove that the obstructing element of phosphorus had been removed or confined to the amount present in steel produced from hematite iron—that is, non-

phosphoretic pig. Mr. E. Windsor Richards stated that the proportion of phosphorus had been reduced from 1·5 to ·02.

To come to the question of the effect of this discovery upon the iron trade generally, but especially that of Cleveland, as yet speculation only can be indulged in. The cost of steel production by this process has not been ascertained, or, if it has, is known only to the inner circle of Messrs. Bolckow, Vaughan & Co. The process is apparently simple, and the cost is therefore assumed to be low, and sufficient proof of this is afforded by the fact that Messrs. Bolckow, Vaughan & Co. are making preparations for applying the process very extensively. The basic lining in the first place may be more costly than the ordinary lining, and, in the next place, though the ingredients employed are not in themselves costly, they are used in a sufficient quantity to form an appreciable element in the total cost. Speculation about the cost, however, is assumption only, and a definite decision on that point can only be afforded by the results. The yield of the basic-lined converter is stated to be as good as from the ordinary Bessemer converter, allowing of course for the 1½ per cent of phosphorus that has to be removed. It is fair to assume that a company possessing every requisite ingredient can produce steel much more cheaply from Cleveland ore than from ores which have to travel long distances, and upon which heavy railway dues are paid. Proceeding on that assumption, the question then occurs, What is to become of the iron trade of Cleveland, and especially the wrought-iron branch of it? There are about 2150 puddling-furnaces in the district known as the North of England. In the palmy days of the trade, these were all lighted up, while now not more than 1100 are working. Those furnaces, with their attendant mills, represent an immense amount of capital, and if, as many say, the iron trade is doomed, the prospect for those who have embarked their capital in such channels is not very encouraging. Supposing, however, that the fiat of doom has gone forth, the execution of the sentence is not likely to take place just yet. It will take some time to convince ship-builders that steel is of greater utility than iron in ship-building, and it is by many disputed whether Bessemer steel will ever oust wrought-iron in this particular. Those, however, who have expressed doubts on this point have been ready to admit that Martin-Siemens steel may, if produced cheaply enough, become applicable to ship-building. One thing is certain, however, that the cheap production of Bessemer steel will have an immediate effect upon the rail trade of the district. Messrs. Bolckow, Vaughan & Co. have been able to compete very largely with other districts in the production of steel rails from hematite ores. With splendid plant to their hands, requiring no other alteration than the linings of the converters, they will no doubt soon be producing steel rails made from Cleveland iron on a large scale. The effect to themselves will be unmistakable, and the reputation of Mr. E. Windsor Richards and the fortune of Messrs. Thomas and Gilchrist ought to be secure. For a time the Cleveland district must expect, otherwise than as affected by Messrs. Bolckow, Vaughan & Co., a period of dullness and depression as great as that now existing. But in the mean time manufacturers will have time to adjust themselves to altered circumstances, and prepare for the conversion of their now useless iron-plant into steel-producing plant. When the final change comes about, the district of Cleveland will feel the reviving influences of a new industry, and will quickly respond to the commercial activity which will set in. It is in consequence of the success which has attended Messrs. Bolckow, Vaughan & Co.'s efforts much more apparent that steel will in most branches of industry displace iron. In that event, Cleveland is sure to obtain a large share of the trade of the world, and, without attempting too glowing a picture of its future, it may readily be believed that its prospects are exceedingly bright.

GILPIN COUNTY'S (COLO.) BULLION PRODUCT.

The first quarterly shipments for the year 1878, as taken from the Express Company's books, are as follows:

January	$98,225
February	77,795
March	88,600
Total	$264,620

And for the same period in the present fiscal year:

January	$113,250
February	84,750
March	92,750
Total	$290,750
Same period in 1878	264,620
Excess for the same period over 1878	26,130

The amount of bullion shipped by express for three weeks of the present month is $84,200.

This amount was in the shape of retorts from the stamp-mills and gulch gold.

The following amounts of ore have been purchased at the Valley Smelting Works at Golden and the Black Hawk agency of the Boston & Colorado Works for the first three months of 1879. These are the amounts paid for the ores over and above treatment:

Valley Smelting Works	$26,197.43
Boston & Colorado Works	81,257.50

The Boston & Colorado Works have kindly furnished us the following table, which shows the amount of ore and the value paid for the same during those months:

	Tons.	Value.
Mill tailings	1,385	$9,222.60
Gold ore	668	48,434.80
Silver ore	127	19,323.60
Silver and gold ore	84	4,276.50
Total	2,264	$81,257.50

Of the above amount, 127 tons of silver ore were from the new silver district, for which $19,323.60 were paid, or at a rate of $156 per ton, with no shaft in the district down 100 feet.

The first quarter is always the worst feature. With the new companies starting up, the ratio of increase of bullion from Gilpin will overreach any former period for years. Our deep mines are in pay.—*Register-Call.*

THE THOMAS METHOD OF DEPHOSPHORIZING PIG-IRON IN THE BESSEMER CONVERTER AND OPEN HEARTH.

The numerous statements which have lately appeared in English and American journals have been, to a certain extent, premature in the sense that they have been made before the patentee and Messrs. Bolckow, Vaughan & Co. intended they should be. The design was to obtain such commercial results as would put the value of the process beyond the region of doubt, and to first make the details of the process known at the forthcoming meeting of the Iron and Steel Institute in London. The value of the invention was first made public in the paper presented by Messrs. Thomas and Gilchrist at the Paris meeting of the Iron and Steel Institute in September last, in which the results obtained at the Blaenavon Company's works, in South Wales, were given, though Mr. Thomas, at the annual meeting of the Institute in 1878, made the statement that he had successfully eliminated phosphorus in the Bessemer vessel; which statement, however, called forth no comment.

The first practical tests after the Paris meeting were made in the Ponsard furnace at Thy le Chateau. The details of these trials, as well as those referred to below, will be communicated at a later date.

In the Thy le Chateau experiments, a rammed lining made of dolomite and silicate of soda was used. The pig employed was half Luxembourg, containing silicon, ·2; sulphur, 1·3; phosphorus, 4·4; and the other half English hematite of the usual composition, which would represent an average of probably 2·5 per cent of phosphorus. Two blows were made, the resultant steel containing respectively ·41 per cent and ·36 per cent of phosphorus. The next trials were made at the Acklam Works, Middlesbrough, in an apparatus known as the Smyth Receiver,* under the auspices of the Standard Iron and Steel Co., of Manchester. The vessel is a modification of the Bessemer converter, and was worked at the ordinary blast-furnace pressure of 3 lbs. The lining was imperfectly rammed (dolomite and silicate of soda), and not sufficiently dried, and was also in contact with the silica bricks forming the arch of the vessel. As a result, it fused quickly at the point of contact, and scaled off in places, and silica bricks from the roof fell into the bath. Notwithstanding all of these drawbacks, the phosphorus in three blows had been reduced from 1·45 per cent to ·45, ·41, and ·28 per cent.

Contemporaneously with the Acklam experiments, Messrs. Bolckow, Vaughan & Co. began to test the basic lining and basic additions in their new two-ton vessels which had been laid down at their Middlesbrough Works for the manufacture of special steels.

The results were not absolutely uniform at the beginning; but late private advices state that the phosphorus is now reduced, as a regular thing, to ·026 per cent from a pig containing 1·4 per cent, and the lining has been made to stand a month's consecutive work, and at last accounts was in good condition. The difficulties first experienced in manufacturing dolomite bricks have been overcome, so that 90 per cent perfect bricks are obtained from each kiln-full, the other 10 per cent being ground up for bottoms.

The importance of this process for our own steel manufacturers, especially for the open hearth, can hardly be overestimated. Iron-producing districts which have heretofore been considered as out of the steel race will, with their cheap ores and contiguous coals, assume a great importance.

ANTI-PHOSPHORUS.

COLORADO WANTS IRON-WORKS.

The Denver *Tribune*, after pointing out the rapid growth of Colorado, and its future prospects, gives the following reasons why iron-works should be profitable there:

"The importation of machinery into Colorado amounts yearly to one and a half to two millions of dollars, and adding to this rails, railroad iron, pig and merchant iron, stoves, and other hardware, the importation of this material will not be less than four millions of dollars. And the demand in this respect is on the increase, and may be doubled or tripled in a few years, for the reason that not only the mines of Colorado are becoming daily more productive and numerous, but also those of the adjacent mining regions. What is now imported from Chicago, St. Louis, Pittsburg, Baltimore, and other Eastern cities could be more cheaply drawn from Denver, as the freight for 1000 or 2000 miles of transportation excludes all possibility of competition, if Denver will make use of its advantages of geographical position and natural resources immediately in its reach. In the neighborhood of this city are immense deposits of iron and coal. We find layers of iron near Boulder, Ralston Creek, Morrison, Platte Cañon, Hall's Gulch, South and Middle Park, all, except the latter, easily accessible by railroads. The ore is partly magnetic, and contains, on an average, about 55 per cent of iron. Experiments made with ore from different places are highly satisfactory. Coal also is in abundance and cheap. Coal for steam purposes is found but a few miles distant from Denver, and for smelting it can be obtained from various places. Trinidad, in Southern Colorado, furnishes us now with coke, but our main reliance will be on the large deposit of anthracite and common bituminous coal on the western slope of the Rocky Mountains, where a belt of this kind of coal has been discovered on the bank of the Gunnison River, and also north from there as far as White River. The South Park Railroad and the extension of the Colorado Central Railroad from Georgetown are aiming in this direction, and we hope in a year or two to see the products of the coal-fields of the western slope of the Rocky Mountains in our market.

"In Denver are four machine-shops and a rolling-mill. They are doing well; but we want above all a blast-furnace and puddling-furnace to make our own iron, before we can expect to give to these and other industries of a similar kind that impetus which will enable them to do justice to the wants of the country. We pay now $30 for pig-iron, and it is estimated by competent experts that we can produce the same article here for $19, making full allowance for higher wages and other monetary inconveniences. We need men of experience, energy, and capital to start in. Such will find here the richest harvest for their enterprise, and would soon become millionaires. Why does not Pennsylvania, for instance, move her idle furnaces to Colorado, and bring her superfluous labor along, and thus bless both countries?"

THE South Park Railroad Company has purchased a controlling interest in the well-known Lechner coal mine, located between Hamilton (Colo.) and the Eight-Mile House, and only twelve miles from Fairplay, and it is expected that under its vigorous administration the mine will be opened on an extensive and paying scale.

* For a full account of this apparatus, *vide* Prof. Maynard's Report in the *Metallurgical Review* of April, 1878.

A VISIT TO A MINING DISTRICT IN CHINA.

By G. J. Morrison, M. Inst. C.E., in "The Builder."

(*Concluded from page* 295.)

It is extremely difficult to give a fair description of the method of working. Being ignorant of the language, I could ask no questions, and as all old workings are full of rubbish, it is impossible to tell with certainty what was done last, or what is about to be done next. The main road running from the surface was crossed at certain intervals by roads running at right angles. The miner ascends from the road to the working face, and cuts away some coal, which he rolls down hill to the road, whence it is taken away by the drawers. While this is going on, he is obliged to put up temporary props to support the roof, and after a certain time these become so numerous as to interfere materially with the coal reaching the road, and for this reason the cross-roads are placed at a distance which is found by experience to be most convenient. While the miner is working between the cross-roads, the main road is carried lower, and a new road is opened, and another miner is set to work there. It must not, of course, be understood that all this goes on with regularity. There are faults and other difficulties to encounter. Sometimes the coal is too thin to pay, and in an old mine the workings are most irregular; but, judging from what I saw, this is the arrangement aimed at. At the working faces only the coal is cut away, neither floor nor roof being touched; the space in which the miner works is therefore only one foot nine inches high. It is hard to wriggle about in such a place, and the difficulty of working is very great. It is, therefore, not surprising that the output of the mine does not much exceed two piculs for each miner per day. A picul ought to contain 100 catties of 1⅓ lbs. each; but the wretched practice exists in China of having piculs of 120, 140, or even 200 catties, just as at home we have stones of different weights. I imagine the output in this case was about 3 cwt. per miner.

The tools used by the miner are chisels about 12 inches long, and one half inch thick, and a small hammer. With these he cuts holes in the coal, and afterward breaks off lumps of considerable size by means of wedges. The pick is very little used in these mines, although it is used in the bituminous coal mines a few miles distant. The coal is drawn to the surface in baskets fixed to sledges. Each basket contains about 100 lbs. A man or a boy draws the basket by a leather strap, which passes along his back over one shoulder, and back again between his legs to the basket. He progresses on hands and feet, and draws the load after him, the sledge passing smoothly enough over the ladder, whether the ground is leveled or inclined. When the ladder is steep, the process looks dangerous, as, if the man were to slip, or any thing to give way, the man behind would almost certainly be killed. The maximum work of a man is four journeys per day. In returning to the surface where the road is steep, the drawer sits on his basket and slides down the ladder, using his heels to guide himself and to regulate the speed.

The mines here are never troubled with water. When any appears, as it does occasionally, the miners stop work for a few days, and it runs away through the fissures in the strata. The ventilation is effected through openings to the surface at various places, which I understood were either old entrances or places where the workings had come to the surface. It was stated distinctly that in this mine no special air-courses were cut. On the day of my visit the temperature of the mine was much lower than that of the external air, and natural ventilation would be sufficient to keep the mine fresh; but they told us they sometimes used fans below ground, "something like winnowing-machines," about four feet or five feet diameter.

They said that with thirty miners and thirty drawers the output of the mine was about sixty piculs, which I take to be about four tons and a half. The wages of the men are three tias (about 1s. 1d.) per day, and of boys two tias (about 9d.). This coal sells at the mine at three tias and a half a picul. This would apppear to be a losing game, but the profit is made on the difference between the miner's picul and the selling picul. The mines are worked for the benefit of the owners of the land, and we were told that they paid nothing to the government, except a yearly present of small amount to the local magistrate.

After hearing this, I fancy most people are surprised to find that the Chinese know so much and effect so little. The system of working is not unscientific, and only differs in detail from our long-wall system at home. Although we place our fans for the ventilation of collieries at the surface, still, in the construction of headings, etc., they are often placed below. The Chinese would probably be unable to cope with large quantities of water; but it must not be forgotten that within a century our own Cornish miners failed in this, and only succeeded through the assistance of outsiders, of whom Watt was the chief. But with all this knowledge, here is a mine which has been worked for 100 years, and the workings extend to a distance of a mile, with a daily output of four or five tons.

The great want below, as above ground, is that of roads. I am tolerably safe in saying that there is no drawing-road in any coal mine in Great Britain like the one I have described. There are, doubtless, air-courses as small, but then men only pass through them occasionally. The worst roads are to be found in the Cornish mines, where, unfortunately, it is a common thing for the miners to take more than an hour to get from the surface to their working-places, and the owners comfort themselves by thinking that in old workings nothing better can be expected, and by trying to believe that it is the miners' time and strength that are sacrificed, and not theirs.

Dreadful, however, as is the life of these poor Chinese miners, it must not be supposed that they appear to be discontented. Their wages are more than sufficient to provide them with plenty of good food and with houses to live in; and as they wear no clothes below ground, and very little in summer above ground, their tailors' bills can not be serious matters. They are always civil and ready to chat and joke with any one, and here, as over the greater part of China, a foreigner has nothing to fear from the common people, unless, either intentionally or accidentally, he offends them.

I believe I am correct in stating that women are never employed in Chinese mines. In this respect the Chinese are far in advance of the Japanese, and, for that matter, the Sicilians and some other western nations, in whose mines much of the drawing is done by girls. I have seen dozens of naked Japanese men working in the same mine with women, whose clothing was just visible to the naked eye.

Immediately to the west of the mine just described there is a low range of hills, and after passing these the scenery is very fine. The numerous coal mines occasionally mar the landscape, but some of the cliffs are magnificent. The roads are execrable, taking one up and down hills at almost impossible gradients. Mules and asses are the only beasts of burden that can use them, and wheeled traffic is impossible. Twenty miles a day, as the crow flies, is hard work.

The following day we reached Chai Tang, about 40 miles west of Peking, and we visited some of the bituminous coal mines in the neighborhood. The seams which we saw are six feet or seven feet thick, and there are some much thicker. The mines appear to be worked on the pillar and stall system; that is to say, large pillars of coal are left to support the roof, and these are worked out when any portion of the mine is about to be abandoned. Here they construct artificial air-courses, and also employ "bratticcs," or partitions of timber or similar material, to divide the passages in two, so that the air may travel in along one division, and out along the other. When asked about fire-damp, they replied that they were troubled with it occasionally, and in some neighboring mines there had been explosions, killing people; but they added, "These only occur when the air does not circulate."

It will thus be seen that they have not a great deal to learn in the theory of mining. The want of roads is not so much felt in these mines as in the thin anthracite seams. These seams are high, and the mines have not been worked so long. One draw can bring out about a ton a day, and one miner can get as much. The tools used are picks with one head, that is to say, in the form of an ┐, and not of a ┬. We were told that the price at the pit's mouth was 6s. a ton, but I believe it is often sold as low as 4s. The cost of carriage to Peking is, however, 30s., so the coal is dear enough there.

OUR EXPORTS AND IMPORTS OF GOLD AND SILVER.

A comparison of the exports and imports of gold and silver coin and bullion exhibits the following:

Month ended March 31, 1879, excess of exports	$1,810,240
" " " " 1878, " " "	704,986
Nine months ended March 31, 1879, excess of imports	161,945
" " " " 1878, excess of exports	3,259,749
Twelve months ended March 31, 1879, excess of exports	497,117
" " " " 1878, " " "	23,910,512

The statistics to March 31st, 1879, were as follows:

Gold and Silver (Coin and Bullion).	For the month of March, 1879.	For the nine months ended March 31st, 1879.	For the 12 months ended March 31st, 1879.
1879—Exports—Domestic	2,400,797	10,605,341	18,785,810
Foreign	594,047	5,220,840	7,707,504
Total	2,994,844	15,826,181	26,493,314
Imports	1,184,604	15,988,126	25,996,197
Excess of exports over imports	1,810,240		497,117
" imports over exports		161,945	
1878—Exports—Domestic	2,233,986	18,881,416	37,085,154
Foreign	658,687	4,191,576	10,063,725
Total	2,892,673	23,072,992	47,748,879
Imports	2,187,687	19,813,243	23,838,367
Excess of exports over imports	704,986	3,259,749	23,910,512

TASMANIAN TIN.

The reports of the various Tasmanian tin companies which close their accounts to the end of the year are of a most encouraging character. It appears that, with ingot tin at £60 per ton, they can produce the metal at cent per cent profit, or, in other words, they can produce for £18,000 tin which at the price mentioned is salable for £43,000, while, as to quantity, the Mount Bischoff Company alone can produce, and actually is producing, 1100 tons of fine tin in the half-year, and several other concerns are quite as profitably employed. The importance of these figures will be better appreciated when it is stated that according to the last published official returns—those for 1877 (those for 1878 will probably show a slight reduction)—the yield of the whole of the tin mines in the United Kingdom for the year was but 9500 tons.

The Mount Bischoff Company held its half-yearly meeting at Launceston (Tasmania) on January 31st (Mr. Alexander Webster in the chair), when its accounts were presented, showing that it had raised £43,210 worth of tin ore, to do which it had expended, in salaries and wages, £16,165 7s. 5d.; stores, £1135 4s. 4d.; and other charges (including £100 for library fund), £844 19s. 3d.; leaving a profit on the six months' working of £25,064 9s., which, with £16,474 18s. 1d. brought forward from the previous half-year, gave an available balance of £41,539 7s. 1d. Of this, £24,000 was declared as dividend, £3462 4s. 2d. was set aside for plant, a bad debt of £31 13s. 5d. was written off, and £14,045 9s. 6d. was carried forward. The Chairman stated that during the six months (to December 31st) 1490 tons of ore had been raised, against 1339 for the corresponding period of the previous year, showing a considerable increase. During the first half of 1878, 702 tons odd had been raised, so that the yield had been nearly doubled for the last six months; and as soon as the mining manager had completed the battery and machinery for dressing the tailings, the yield would be considerably increased, with but little increase in cost. The balance-sheet showed a considerable sum to credit, even after the payment of a large sum in dividends, and the mining manager said the mine looked as well as ever. The low price of tin was a matter of regret; but the labor-saving appliances now being used would counteract that to a great extent by reducing the cost of production; and a letter he had received from a well-known metal broker stated it was his opinion that tin would range from £60 to £65 per ton, and that it was not likely

to go below £60, and then there would be a steadier market than they had had for some time past. The tin ore produced yields 67 per cent of fine (about 150 tons have yielded 69 to 71 per cent), and is valued at £29 per ton at the mine. The company smelts its own ore, and thus realizes the maximum of profit.

The Native Youth, the Main Creek, the Surprise, and the Try Again Tin Mining Companies' meetings were convened, but lapsed for want of a quorum, in each case the shareholders apparently being contented to receive their dividends. The Native Youth accounts alone have yet been received. This appears to be a small concern, which raised only £4058 16s. 9d. worth of tin, out of which, after payment of costs andcharges, it declared £1500 as dividend, and carried forward £141 19s. 8d. The prospects of the Tasmanian mines certainly appear to be altogether excellent. —*The (London) Mining Journal.*

THE GOLD MINES OF GILPIN COUNTY, COLORADO.

From the Central City *Register-Call*, of the 25th ult., which contains a very elaborate review of the mining industries of Gilpin County, we make the following extracts:

THE CASHIER MINE.

The principal part of the development has been made within the past year, and embraces a main shaft, down to a depth of 245 feet west of present shaft workings, and two others further west, the first of which is down 50 feet and the other 119 feet. The last two are designed for winzes for future level exploitations west. East of the main shaft, a surface winze connects the east adit at a depth of 60 feet, and a depth of 120 feet below the rim of the main shaft. The adit has been driven west to a point where it connects and intersects the east 100-foot level from the main shaft. This adit, 446 feet in length, will be used for a tramway for all back-stoping above a depth of 100 feet from the surface. To facilitate this and carry out the plans inaugurated, a car has been procured, and a track laid with T rail will be put in, and the ore back-stoped trammed through the adit to the surface. East of the adit, near Packard Gulch, a tunnel on the vein has been driven a distance of nearly 200 feet, which will tap the main shaft west, at a depth of 300 feet. The present amount of levels that have been driven east and west from the deep shaft is as follows: 50-foot east level, 26 feet; 50-foot west level, 60 feet; 100-foot west level, 134 feet; east level (forming a portion of adit driven from the east), 446. The crevice in the bottom of the main shaft measures 5½ feet between walls, and is saved for milling and smelting purposes. The ore thus far treated under stamps has yielded from 3½ to 6 ounces gold per cord. There is a large amount on the several dumps that could be treated profitably with a mill near at hand.

This mine is developed by three shafts down to the respective depths of 110, 90, and 35 feet. Present explorations are confined to the 110 and 35-foot shafts, which will be connected by levels. Levels have been driven covering 150 feet of ground. A shaft-house has been erected over the deep or main shaft, and the same cribbed up and timbered in a substantial manner. Under former workings, the ore from this vein has paid from 4½ to 9 ounces per cord under stamps.

O K MINE.

Work was commenced on this mine in 1875, since which time it has been worked at intervals, up to the organization of the O K Gold Mining Company. The main shaft—315 feet in depth—shows a uniform crevice of 42 inches in width, its entire distance. Five levels have been driven, namely, at a depth of 50 feet, 50 feet in length west; depth, 115 feet, 185 feet in length west; depth, 225 feet, 175 feet in length west; depth, 285 feet, 95 feet in length west; depth, 225 feet, 110 feet in length east. The levels are all connected by winzes from the top, affording the best of ventilation in the lower workings of the mine. The average of the mill ore has been 3 ounces gold per cord. By concentration, from returns, some of the ore averages 6¼ ounces. At present, the main shaft is not being sunk, the developments being made through the lower levels. Levels east are being driven to open up new ground east. The main shaft will be sunk to a further depth of 200 feet, which will make it 515 feet below the surface. But little stoping has been done. The company is erecting concentration works on Winnebago Hill, of the capacity of 30 tons per day. They will be in readiness for starting up June 1st, 1879. The O K has an endless amount of low-grade ore, which, when concentrated, as five into one, pays a handsome profit over and above production and concentration. The company has between 300 and 400 tons of ore on hand. The mine is as dry as a powder-house; not enough water to run the engine.

EAST BOBTAIL.

The East Bobtail, which comprises 450 feet of contiguous property adjoining the Bobtail Gold Mining Company's property on the east, and owned by Thaller, Lafranz & Sullivan, has taken front rank as one of the large gold-producers of this county. During the past year, the mine has been worked in a very systematic manner, rather with the view of opening and developing ground than of breaking large quantities of ore; but now that they have their new and powerful hoister finished, which is capable of handling a large output of ore from a great depth, and the ground is opened so as to admit of a large force of miners, this mine at once steps to the front as a large ore and bullion producer. While the gold product of the mine for the past year reached but $68,000, the product for the month ending April 1st, 1879, is $14,371.73—at the rate of $172,462.76 annually—the profits for the month of March being nearly 50 per cent. The average yield of the ore for the month of March was over 6 ounces per cord of mill dirt treated, and the smelting ore sold for from $50 to $135 per ton. This is one of the most desirable small properties in Gilpin County.

(TO BE CONTINUED.)

Scandium is the name proposed by Mr. Wilson for a substance extracted from the mineral gadolinite, and which he holds to be a new element. An account of his research appears in the *Comptes Rendus* of the Academy for March 24th. The author places his new metal among the tetratomic elements, between tin and thorium, and its atomic weight between 100 and 180.

PROGRESS IN SCIENCE AND THE ARTS.

General Science.

The Curious Effect of Oil in lessening the violence of the waves at sea is pointed out by the editor of the *Popular Science Monthly*, who adduces some interesting examples of its utility, and recommends its use in the launching of boats in an angry sea, and other cases of emergency.

Telegraphic News.—The South African telegraphic cable, to connect the European and Asiatic telegraphic systems with the Cape of Good Hope, the contract for the construction of which has just been awarded by the English government, will extend from the Red Sea cable at Aden, around Cape Guardafui, and along the east coast of Africa to Port Natal, where it will connect with the present land line to Cape Town. The line will be laid along the coast, it having been ascertained that the depths are moderate, rendering repairs easy when necessary. It will touch at Zanzibar, Mozambique, Sofala, Delagoa Bay, and Durban; the last point being the terminus of the submarine line, where connection with the land line will be made to complete the circuit to the Cape. The Durban-Zanzibar section of the cable is to be finished by July of the present year, and the whole line by the middle of November. Its cost will be $7,500,000.

The Heliograph, or Mirror Telegraph, an account of the capabilities of which was lately quoted from an article by Prof. Haupt, in the *Journal of the Franklin Institute*, into these columns, is stated by the London *Times* to have played a not unimportant part in contributing to the success of the late operations of the British military forces in South Africa.

The Controversy respecting the Authorship of the Microphone is still being conducted with more or less warmth. The latest issue of the *Telegraphic Journal* has a letter from Mr. Edison on the subject, and a reply by the editors of that journal.

Current Scientific Literature.—The *Proceedings* of the Engineers' Club of Philadelphia (No. 2), just issued, contains an *In Memoriam* to the late Vice-President of the Society, Mr. J. B. Knight; the address of the retiring President, Mr. L. M. Haupt, giving a *résumé* of recent advances in engineering science; papers on Conical Arches at South street (Phila.) bridge (D. Stauffer, C.E.), and the Holly System of Steam-Heating (L. M. Haupt); and minutes, reports, and other domestic business of the society.——The *Popular Science Monthly* (for May) has, among other valuable matter, the following articles of general interest: The Origin of Worlds (Prof. Daniel Vaughan); Dietetic Curiosities (F. L. Oswald, M.D.); New Guinea and its Inhabitants (A. R. Wallace); Dangers of Darwinism (a review); a sketch of Prof. W. D. Whitney (with portrait), the distinguished American philologer; correspondence, book notices, and notes of the usual interesting character.——*Van Nostrand's Magazine* (for May), in addition to a number of selected articles, engineering notes, etc., has the following original contributions: Thermodynamics (H. T. Eddy, C.E.); Submarine Telephoning (C. W. Raymond, C.E.); The Turbine Wheel Discussion, reply to Prof. Bun (Prof. W. E. Trowbridge); Testing Iron by Electro-Magnetism (A. Herring); The Prismoidal Formula (J. W. Davis, C.E.); and Elements of the Mathematical Theory of Fluid Motion (Thos. Craig, Ph.D.).——The *Neues Jahrbuch für Mineralogie*, etc., for many years conducted by Profs. Leonhard and Geinitz, is about to enter into the hands of new editors. This change is brought about by the death of Prof. Gustav Leonhard, which occurred last December, and the subsequent retirement of Prof. Geinitz. The *Jahrbuch* will in future be continued under the editorial direction of Profs. Klein (Göttingen), Benecke (Strassburg), and Rosenbusch (Heidelberg).——The journal issued by the Polytechnic Society of Münich, and known as the *Bayerisches Industrie u. Gewerbeblatt*, one of the most interesting and valuable of the German industrial journals, appears with the present year in new form, an octavo, and will in future be issued as a bi-monthly under the editorial direction of Prof. Egb. Hoyer.——The publication of the *Nautical Gazette* (New York) has been resumed.

The National Academy of Sciences has just held its annual session in Washington, with Vice-President Marsh in the chair. In his opening address he paid a feeling tribute to Professor Henry, the late President of the Academy, and reviewed the work of the Academy for the past year. Among the papers read the following have the more general interest: The Relation of Neuralgic Pain to Storms and the Earth's Magnetism (S. Weir Mitchell); Oxygen in the Sun (Henry Draper); Vowel Theories based on Experiments with the Phonograph and Phonautograph (R. G. Bell); Eclipses of Jupiter's Satellites (E. C. Pickering); Errors of Pendulum Experiments; and A Method of Swinging Pendulums, proposed by M. Faye (C. S. Peirce); Report of Progress of the International Bureau of Weights and Measures (J. E. Hilgard); and Critical Remarks on Observations alleged to be of Intramercurial Planets (C. H. Peters). Professor William B. Rogers, "the Nestor of American Geology," was elected President of the Academy, to succeed the lamented Henry, and the old officers were reëlected.

The Fact that the Co-efficients of Expansion and the points of fusion of the elements stand universally related to each other, has been established to hold good of 31 elements; while arsenic, antimony, tin, bismuth, and tellurium formed exceptions to the law. An investigation bringing out these facts was lately presented before the German Chemical Society of Berlin by Herr Carnelley.

The Programme of the Seventh Annual Exhibition of the Inter-State Industrial Exposition of Chicago, which is just received, announces that the exhibition this year will be opened on September 3d and closed on October 18th.

Metallurgy and Mineralogy.

Steel from Phosphoretic Ore.—Since the publication in last week's issue of the comments of various English trade and technical journals on the announcement that Messrs. Bolckow, Vaughan & Co. had succeeded, by the use of Mr. Thomas's basic lining, in producing steel of good quality from Cleveland iron stone in the Bessemer converter, at a cost sufficiently low to insure the commercial success of the process, a further demonstration of the practicability of the process in question appears to leave little doubt but that what is called in England the "Cleveland

steel problem" has at last been solved. The latest issue of London *Iron*, a highly trustworthy metallurgical authority, whose opinions we quoted last week, reports, as the result of a crucial test of the Thomas process, made by Messrs. Bolckow, Vaughan & Co. at their Middlesbrough Iron Works, in the presence of a select party of iron- and steel-makers largely interested in industrial operations in the north of England, that upon the completion of two operations "the unanimous opinion of the company present was that the process was a complete success," and "that the result of some weeks' working at Bolckow, Vaughan & Co.'s has satisfied the management that the extra cost of the new process will not exceed 1s. 6d. per ton; if, indeed, it does not prove in the end that the slight extra cost for basic additions is not more than recouped in other ways." Our contemporary gives in its adherence to the new departure in the following graceful surrender: "In common with those actually engaged on this problem, though sharing their belief in ultimate success, we have deemed it prudent to suspend judgment upon the results, promising as they were, periodically reported to us. The time has come, however, when doubt appears no longer justifiable, and we have to congratulate our readers upon the fact that Cleveland steel has become commercially possible." The importance of this demonstration, and its probable influence upon the steel production of Europe and America, it is impossible at this time to correctly estimate. It looks, however, as though we were on the verge of another "revolution" scarcely less important in its commercial results on the metallurgical world than that wrought by Bessemer.

The Thomas Basic Lining and basic additions for dephosphorizing iron, the reputed success of which has of late attracted so large a share of attention of iron-masters, is about to be naturalized in this country, Prof. George T. Maynard, who represents Mr. Thomas in this country, having just arrived from Europe.

A Process for Lining the Bessemer Converter with lime by moistening the same with petroleum, and compressing the bricks of this mixture by hydraulic pressure, is the subject of a late patent by Mr. Edward Riley, a well-known English chemist. Of this artifice it is said: "The petroleum is entirely burnt out in the kiln, which leaves the brick firm and solid, and the bricks may be fixed in the converter as lining in the green state, and rammed up at once." This plan is said to prevent fissures by contraction, and to have given excellent results under test conditions in removing phosphorus from Cleveland ore. This is probably the process alluded to by Mr. Mushet in his comments on the Thomas process, which we briefly noticed last week, where he is quoted as saying: "I shall not be surprised if another method * * should eventually take the lead."

The Utilization of the Waste Heat of the Bessemer converter by heating the blast of cupola furnaces with the hot gases escaping from the converters is the subject of an invention of Mr. Arthur Cooper, of Sheffield, manager of one of the leading Bessemer works of that place. A 12-months' trial is said to have demonstrated a reduction of coke consumption in the cupola to 1·25 cwt. per ton of pig melted. The account of these trials is given in the report on the iron and steel industries of the United Kingdom, issued by the British Iron and Steel Institute.

An Improved Amalgamator, devised by Mr. Charles T. Peck, of Melrose, Mass., is described and illustrated in the latest issue of the *Scientific American*. It has a peculiar arrangement of mechanism, by which an oscillating or vibratory motion is given to a series of amalgamated copper pans, about their own axes, while simultaneously a circular and an up-and-down motion is imparted to them.

The Condition of the Blast-Furnaces of the United States on April 1st, 1879, as given in the last issue of the *Iron Age*, in accordance with its custom of giving quarterly statements, makes the following showing:

	In blast.	Out of blast.
Charcoal	68	191
Anthracite	89	137
Bituminous	84	135
	241	463

The place of Correspondent in Mineralogy of the French Academy of Sciences, lately made vacant by the death of the distinguished English geologist Sir Charles Lyell, was filled at the meeting of March 31st by the selection of the well-known American savant, J. Lawrence Smith.

Our Native Marbles, and especially those from the Vermont quarries, which have lately been studied by Profs. Henderson and Watson, with reference to their capacity to withstand the weather wear of our climate, are declared to be superior in durability to the Italian and other foreign marbles, which, in the opinion of these investigators, they will in time supplant for monumental and other outside work.

Chemistry, Physics, and Technology.

In the Volumetric Estimation of sulphuric acid by a standard solution of basic chloride, and of tannin by standardized gelatine solution, Mr. A. G. Haddock alludes in the *Chemical News* to the difficulty of accurately determining the end of the reaction by the usual method of spotting on a black glass plate, and suggests, as an improvement, the employment of a glass mirror in place of it, affirming that by this substitution the difficulty is entirely obviated, and the point of complete precipitation so well and sharply defined that one drop of the standard solution in excess produces a distinct reaction.

An Ingenious Method of Lighting up Buoys automatically by electricity, to render them useful by night, has been invented by M. de Lussex, a Belgium inventor. From a brief account of the device, which we observe in *Engineering News*, we glean that it consists in the employment of a Ruhmkorff coil in connection with a vacuum tube on the buoy as a lantern. The battery power is furnished by large plates of zinc and carbon, the sea water acting as the exciting liquid. The induced current thus generated is said to be sufficient to light up the tube lantern so that it renders the buoy useful at night.

For Electrotyping on Porcelain, the following process is said to be used: A mixture made by dissolving sulphur in oil of lavender, to which is added a solution of chloride of gold or of platinum in sulphuric ether, is evaporated to the consistence of cream, and painted on the article to be decorated, to serve as a basis for the electro-deposit.

Dyeing Items.—From *Reimann's Färber Zeitung* we learn that two new dyes have of late come into use. One is the *Vert Acide*, made by M. Poirrier, of Paris, and the other the Victoria Green, made by the Baden Aniline Company. The same journal notices the fact that the red azo-coloring matters are rapidly supplanting cochineal in the flannel-dyeing works of Saxony. The curious observation is also noticed by the same paper that milk can be dyed in the cow. If the animal is fed with *Anchusa tinctoria*, the milk yielded is blueish; if with *Rheum palmatum*, it is yellowish; and if with madder, reddish.

Engineering, Mechanics, etc.

An Extensive System of Internal Improvements is reported to be contemplated by the French government, under the direct approval and instigation of M. de Freycinet, Minister of Public Works. The enterprises in question, of which an outline appears in the latest issue of the *Scientific American*, comprise projects for railway, canal, and harbor extension, which will require for their realization the enormous sum of $800,000,000. To provide the funds for this extraordinary undertaking, which our authority believes will receive the approval of the government, it is proposed to issue 3 per cent bonds, redeemable in 75 years, the whole of which, it is claimed, would be taken up in France, where enormous sums are lying idle in the hands of bankers awaiting investment.

The most important feature of the plan approved by M. de Freycinet, and which would consume the greater portion of this vast appropriation, contemplates the systematic and elaborate extension of the railroad system of France. Next in importance will come the construction of new harbors upon the coast, and the improvement of old ones; and an improvement that is warmly urged in certain influential quarters is the construction of a canal from Creil-sur-Oise to Beauvais, Amiens, and Albert, with several important laterals. It is urged in favor of this canal that it would greatly benefit the commerce of the north of France. Concerning the railway projects contemplated in this magnificent scheme of internal improvements, we may record, as of interest, the plan proposed of constructing light or narrow-gauge railways, mainly as feeders to the main lines, on the most extensive scale; and also the absorption of the scheme for the construction of a network of underground metropolitan railroads in Paris (the chief features of which were lately given in these columns), as part of the great enterprise. Our contemporary concludes its outline of these brilliant projects with the comment that "M. de Freycinet has laid out a scheme of public works for France which will occupy the republic for many years to come, constituting a system of internal improvements of extraordinary magnitude, which, if it is successfully completed, will itself make the new republic memorable for generations."

The Conference upon the American Inter-Oceanic Canal, which is to open in Paris on the 9th of May, is to be, as we learn from *Nature*, under the auspices of the Paris Geographical Society, and not, as we have heretofore reported, of the Society of Commercial Geography. We learn further that the congress, while it will give an impartial hearing to the various projects presented before it and advocated, will not have any particular project in view. It is said, however, that "if deemed advisable, the congress may in the end give its approval of one or other of the projects."

Railroad Construction in 1878.—The *Railroad Gazette* of last week gives a revised and corrected statement of the railway mileage of the United States added during the year 1878. The earlier statement of the *Gazette* (2688 miles), which we quoted in the JOURNAL some months ago, is now slightly amended by the addition of nearly 200 miles, the corrected figures of last year's construction being now given as 2856 miles. The following statement of railroad mileage added during a series of years, from the same authority, may be useful, to wit:

Year.	Miles.	Year.	Miles.
1872	7,240	1876	2,450
1873	3,873	1877	2,301
1874	2,025	1878	2,856
1875	1,561		

The amended figures for 1878 show an increase of 24 per cent over those for 1877; but they are still over 60 per cent below those of 1872. Adding the mileage of 1878 to the 79,208 miles reported as the total mileage of the United States at the close of 1877 (as per Poor's *Manual*), we have a total of 82,064 miles in the country at the beginning of 1879. The *Gazette* reports the prospect for construction during the present year to be quite good. It reports to date (April 26th) the completion of 391 miles of new road, as compared with 267 in 1878 to the same date.

The Tunnel under the English Channel.—The preliminary investigations, which, in the form of experimental borings and soundings, have been quietly conducted for some time, are at length affirmed to have demonstrated satisfactorily that no insurmountable natural obstacles will interfere in the completion of the work. The *American Architect*, referring to the subject, reports that up to last February no less than 7791 soundings of the channel had been taken, and that the indications are that the tunnel, should it ever be undertaken, will be driven through solid gray chalk. Further details appear in *Engineering News* of last week.

A Report on the Use of Compressed-Air Motors for Street Cars, made by General H. Haupt, C.E., to the Pneumatic Tramway Company of New York, which has just come to hand in the form of an addendum to the proceedings of the Engineers' Club of Philadelphia, gives some very interesting results concerning the performance of an engine of this class on the Second Avenue Railroad, in this city, and presents some important ideas as to the capabilities of this system.

For Suppressing the Noise of Escaping Steam, a device has been lately patented, consisting substantially in discharging the steam through a small chamber filled with glass or metal beads. The beads are from $\frac{1}{24}$ to $\frac{5}{16}$ of an inch in diameter, held in place by copper gratings, and in finding its way through the tortuous passages they afford, the steam escapes quietly and freely, with but little back pressure.

The First Movement in Europe looking to the adoption of iron cross-ties for railways has been made by the Belgian government, which is reported to have decided on the abandonment of wooden railway sleepers.

GENERAL MINING NEWS.

ARIZONA.

THE GLOBE DISTRICT.

From the *Silver Belt* of April 18th we take the following :

"The shaft of the S. W. Alice is down 40 feet. A cross-cut was started west from the bottom which cut the hanging-wall, and is now in two and a half feet of ore, which assays 114 ounces in silver and ten dollars in gold. The vein bears northeast and southwest.

"Meek, Anderson & Co. are hauling El Capitan ore to the Haskin mill, which is said to be very rich in silver.

"Morrill, Kellner & Co. shipped 1050 ounces silver bullion from Miami mill.

"L. J. Webster shipped 400 ounces bullion from Miami mill.

"We have reports of the sale of two mines in this district at round prices, but are not sufficiently definite to name them or the price given.

"A shaft is being sunk on the Saranac mine. It is now down sixty feet ; ore is being taken out to be worked at the Haskin mill.

"In the Bohemia mine, work is progressing. This mine is near the Mexican. There is now a 20-foot shaft, and shows ore in the bottom, but how much or its value we are not informed.

"The Mexican mine is reported as sold on condition of the ore milling $60 per ton."

THE TIGER MINE.

This mine is located in the Bradshaw District. The *Miner* says : "This company has about 100 men employed, a portion of whom are at work in the old shaft taking out ore, while others are sinking a new prospect shaft, and putting up the new mill. Good ore continues to come out of the mine at the 400-foot level, and large quantities are now waiting treatment in the new mill, which will be completed and running by the 15th of May. The new prospect shaft is being sunk steadily, and the workmen are now down 130 feet. This shaft will be sunk 900 feet, when they will run a tunnel east about 75 feet to the vein. The Tiger is undergoing a more thorough prospecting, probably, than any mine in the territory, and the rich chlorides that show themselves on the approach of each bucket of ore as it comes to the surface certainly justify the large expenditures the stockholders have been, and are still making, on this mine."

THE PIMA DISTRICT.

The Tucson *Citizen* of April 18th says :

"The Esperanza and Tinaja mines are located on the Sierritas, about a mile and a half from the Tinaja or Tank. These are old mines which were worked about 100 years ago. There are three old shafts on the ledges, and two cuts, one 60 feet long and another 75 feet long, the latter being 14 feet deep at the foot-wall. The present owners have run a new cut across the ledge, beginning about eleven feet outside of the foot-wall. They are now thirty-two feet in the vein and are still eleven feet from the hanging-wall. We are informed that these claims have been bonded for sixty days for the sum of $15,000. The average assay of twelve feet of ore in the ledge is $115.27. Two or three new discoveries have been made in the same locality. Shafts ten or twelve feet deep have been sunk on each of these, and the prospects are very good. The ore-body in these two new locations is about three feet wide."

The Cumberland mine has been bonded to English capitalists for $150,000.

"The Central Arizona (Vulture) Mining Company has contracted for and is having manufactured a 40-stamp quartz-mill, which is to be on the ground in sixty days. This company has graded the foundation for the new quartz-mill, and is now making a good road from the Hassayampa to the mine. The mill will soon begin to arrive at Gila Bend, and before the 15th day of June 80 stamps will be pounding away upon the tens of thousands of tons of quartz lying scattered over the earth at the Vulture."

CALIFORNIA.

THE BODIE DISTRICT.

From the *Standard* of the 19th of April we condense the following :

"The past week has witnessed a deal of activity in Black Hawk. The Warren ledge was cut in the 320-foot level, and under reports that it was not up to the standard which was hoped for it. The fine showing made in the month of March, on Bulwer ore, is the probable cause of the advance of that stock. A yield of over $135,000 in one month from a ten-stamp mill has few parallels in mining history. The Noonday is looming up at present, and shows one of the strongest and healthiest ledges in the camp. It is shipping ore to the Syndicate and Miners' mills, both of which have been engaged, and the former is now running on the Noonday rock.

"The south drift from the main shaft, 385-foot level, of the Standard mine, is in 365 feet ; progress during the week, 31 feet. The ledge is 2 feet wide, and looks well. The east cross-cut from this drift, 300 feet south of shaft, is in 30 feet in very favorable ground. The north drift, to connect with incline, has been run 17 feet since last report. The ledge is 4 feet wide, of very good ore. An upraise has been started on this ledge 100 feet north of the main cross-cut. This upraise shows a ledge 4 feet wide, of very fine ore. The east cross-cut, 700-foot level, is in 34 feet. The rock is very hard The west cross-cut, same level, is in 37 feet. The West Standard winze is down 60 feet. The ledge in the bottom is 18 inches wide, of very rich ore. The south drift on the Gildea ledge is in 107 feet. The ledge is 2 feet wide, and looks well.

"The cross-cut west from the main shaft, 520 level, of the Tioga, is the most interesting feature of the mine. It will be pushed rapidly. The formation is very favorable. The cross-cuts on 420 and 320 are going ahead as usual. The annual meeting of the company takes place to-day. It is probable that orders will come for pushing a lateral drift north from the 520 level to connect with the Syndicate main tunnel, and pushing things generally.

"The south drift, 380-foot level, of Bulwer, has been advanced 262 feet. The ledge is 2½ feet wide, and looks well. The west cross-cut from this drift is in 100 feet. The rock in the face is still hard. Drifts north and south have been started on the last ledge cut in this cross-cut at 50 feet west of the main south drift. The ledge is 4 feet wide, of good ore. The south drift, 280-feet level, is in 89 feet; progress since last report, 13 feet. The ledge is here 3 feet wide, of good ore. Extracting ore and shipping to the Bodie mill has been resumed."

THE LAKE DISTRICT.

From correspondence and recent exchanges, we learn that a remarkably rich strike has been made in the Mammoth mine, located in the Lake District. The tunnel at the bottom of the mountain was run in the direction of the vein, but owing to the *débris* and waste to run through, and the amount of timbering required, another tunnel was started 200 feet higher up, under the croppings, and carried a distance of 350 feet south in soft vein matter. Two cross-cuts running west only showed low-grade quartz ; but a cross-cut east, which is in from the face of the tunnel 150 feet, disclosed at the distance of sixteen feet, and from that point for fourteen feet, a ledge of rich gold quartz eight feet in width. Another cross-cut run 100 feet further brought to view a ledge three feet from the tunnel equally rich, being covered with spangles of fine quality.

The richest rock, with free gold in abundance, was found in a south drift in the center of the vein. The rock is highly impregnated with sulphurets of silver. Additional cross-cuts have been run east from the tunnel, but not in the rich streak. The bars that have been turned out have ranged from 900 to 996 fine ; the percentage of silver has been from 70 to 30 per cent. One assay gave over $900 to the ton. The first tunnel will soon develop the quality of the ledge 500 feet below the croppings, and another tunnel is contemplated which will strike the ledge 1800 feet below these. Owing to facilities in supply of wood and water, the expense of mining and milling ore is very low.

A fine 20-stamp mill is employed, but 100 stamps could be kept at work, and these will probably be in place this summer. A tramway, which almost looks vertical, extends 600 feet from the tunnel to the bottom of the bluffs below the croppings. Successive chutes and cars convey it to the mill. The locality of the mine is marked by a huge basalt rock.

The city is situated in the foot-hills, and there is abundant timber in the vicinity ; also a chain of seven lakes, which provide an inexhaustible supply of water.

A number of mining and business men of Bodie have visited the Mammoth mine, sixty miles distant. The route showed several beautiful sheets of water, some nearly inaccessible, and, perhaps never reached by man, and several extinct volcanoes, their smooth sides showing an overflow of lava in remote ages ; the mountains, as they rise from the plain, flashing back the sunlight as from surfaces of glass ; over dried lakes and creeks, filled to overflowing at some seasons of the year ; by hot springs, with bubbling water exhaling steam so dense and hot that one can only remain in the vicinity a few minutes.

The Armstrong mine, adjoining the Mammoth, has been bonded for 120 days for $30,000, the bonder paying $2500 cash for the privilege.

COLORADO.

The Georgetown correspondent of the Denver *Tribune* says : "The Dunderberg is looking remarkably well in the lowest workings, showing a vein of solid ore a foot in thickness. The ore dressed into one class mills from 200 to 300 oz. of silver per ton. The East Terrible carries a fine vein of ore yielding silver at the rate of from 200 to 500 oz. per ton. The Pelican is employing 60 men."

SILVER CLIFF.

From the *Prospector* we learn that all of what are now termed the old mines, though none of them are fully developed, are showing admirably as they go down, and proving profitable to their owners. Among them none are making a richer exhibit that the Rambler, the Racine Boy, the Herman, the Hidden Treasure, the Jay Hawker, the Horn-Silver, the Storm, or La Plata Verde. The Montrose has struck a body of galena at a depth of 26 feet. The Johnny Bull has been bonded for $10,000.

It is reported that a good strike has been made on the 100-foot level of the Smuggler mine.

THE SLIDE MINE.

The Boulder *News* of April 18th says :

"A visit to this mine last week enables us to present the following items of interest concerning it : The mine is now being worked from a tunnel which has been run in 375 feet on the vein nearly 1000 feet above the mouth of Corning Tunnel, and about 130 feet below the discovery shaft. The latter has been carried down over 100 feet below the level of the tunnel and levels run each way. The ground now open has been pretty well stoped out, showing uniform richness in ore and exposing a large, strong vein. At the 200-foot level it has been taken out over 15 feet wide, showing dozens of rich streaks carrying sylvanite, tellurium, and free gold. The driving of the tunnel has cut a great number of spurs and gash veins, besides one or two fissures carrying fine pay. The stoping shows that the main pay-streak varies from a few inches in width to two feet. The ore is hoisted at present to the tunnel level by a railway horse-power, which is faster than a whim and more compact. The mine is in good shape, well-timbered ladder-ways, and excellent ladders, with a large roomy ore-house conveniently arranged for dumping ore from the iron cars at the mouth of the tunnel. Professor Smith says that the company expects to put up an engine about May 1st, and commence sinking to open up more ground, which will probably be done with air-drills. The ore is generally very high grade, the second class running over $1000 per ton. We did not learn the exact output of the mine, but with eight good miners breaking rock, stoping, it can not be far from 25 to 30 tons per month. Some of the finest specimens of crystallized gold were shown in the ore-house in the first-class ore, which is peculiarly pure and bright, almost entirely free from any trace of crudeness, and its appearance in such profusion in the ore is quite dazzling. We are informed that the mine has paid over $10,000 net profit since the 15th of January, which, considering the small number of men employed and the hardness of the rock, is certainly an excellent showing."

LEADVILLE.

The weather has been very disagreeable, and the roads are in a very bad condition. A very important discovery in the Doris, near the Long & Derry, is reported. It is said that the vein is from 3 to 5 feet thick, and carries from 133 to 351 ozs. of silver. This claim had been located less than a month previous to the discovery. According to Mr. Franklin Ballou, "the daily product of the camp is about 180 tons." The Little Chief, New Discovery, Little Pittsburg, and the Iron mine could produce 400 tons per day, while there are in all about 30 producing mines. It is rumored that the sale of the Crescent did not go through as reported. It is said that the Morning Star, Evening Star, and Waterloo mines have been bonded with forfeit to Chicago parties for $275,000. These properties are owned by ex-Governor Routt and associates. One half of the Shamrock is reported to have been sold for $45,000 cash. Leadville is as likely as ever, and as prospecting can now be prosecuted much more satisfactorily, it is thought that the excitement will increase. Kokomo is going ahead at a very rapid rate. The Eagle River district is looming up. On the Arkansas, about four miles from Leadville, some very good ore has been discovered.

According to correspondence in the London *Mining Journal*, the profits of the Colorado United Mining Co. (Terrible) were, in January, $5254 ; February, $1972, and March, $8772.

IDAHO.

THE BANNER DISTRICT.

The Boise *Statesman* of April 19th says of this district : "What is known as the Banner mining district is located about sixty-five miles to the northeast of this city, on the upper tributaries of the north branch of the Boise River, and about midway between Boise City and Bonanza City, the center of the Yankee Fork mines.

"The extent and richness of the Banner mineral belt has been long since demonstrated, and an excellent twenty-stamp mill has been in operation there for several years. This mill, with several of the richest mines near it, has passed to the possession of the Elmira Gold and Silver Mining Company, having their headquarters at Elmira, N. Y. This company has had its experts and agents on the ground, and has fully tested the richness and nature of the ores in the several mines, and is fully satisfied that it has acquired a most valuable property. During the past winter the company has kept a force of men employed in the mines making explorations and getting out ore."

DAKOTA.

THE BLACK HILLS.

We are indebted to the *Pioneer* of April 21st for the following interesting statistics :

"Deadwood, Whitewood, and Bobtail gulches are alive with industry. Many rich streaks among the placer and hill diggings have within the week been developed ; while from Rapid and Castle Creek the same encouraging report reaches us. Prospecting is not confined to a line of the bonanza belt. In Bald Mountain, Pennington, and Bear Gulch districts, we were told that shafts are being sunk, tunnels being driven in, and prospecting for new finds is the order of the day.

"Mining is the main industry of the Black Hills, and judging by our unprecedented growth in three years past, we can look forward with certainty in three years hence to have the largest gold-producing field in the world. The question most vital to our future has been solved by the recent developments made in the

Homestake, Terra, Deadwood, and De Smet, clearly demonstrating that as depth is attained the ore changes from oxides to sulphurets of iron, decreasing in quantity and increasing in value. As a rule in our bonanzas, $8 ore was an average of surface rock, while at 150 feet in depth it has increased to an average of $20 per ton.

"At a very liberal estimate for labor, material, and purchase-money, not to exceed $3,000,000 has yet been invested in quartz mining and mills; yet our bullion yield is $250,000 per month, or three million dollars per year, with a certainty of over five millions for 1879.

"The following statement exhibits the number of stamps now running, yield per month, with the name of the mine and mill:

Mill.	Mine.	Stamps.	Total yield per month.
Casey	Pecacho	20	$12,000
Cassell & McL	Blacktail	10	7,800
" "	Gopher	15	10,800
Gopher	Gopher	10	7,200
Caledonia	Caledonia	20	12,000
Fairview	G. Terra Ex	25	21,000
Powers	Gold Finch	25	15,000
Lewis	Gt. Eastern and Golden Rule	20	12,000
Deadwood	Deadwood	60	48,600
Elliott's	Deadwood	20	10,800
Golden Terra	Golden Terra	30	16,200
Union	Golden Terra	10	5,400
Union	Rose	15	8,100
Bogle	Roderick Dhu	20	12,000
Thompson's	Erin	20	10,800
Cheyenne	Cheyenne	20	13,800
Father De Smet	De Smet	80	43,200
Homestake	Homestake	80	60,000
Castello	Giant and Old Abe	20	12,000
Highland	Highland	30	25,200
Racine	Pierce	20	14,400
Burns	Old Abe	20	13,200
Marshman's	Seg. Homestake	15	9,450
Mandeville	Rochford	20	13,200
		625	$404,150

"It will be seen by the foregoing table that 625 stamps are to-day crushing ore in the Hills, of an average value of $11 per ton. We estimate in crushing an average of two tons to the stamp, which, with a few exceptions, is a correct estimate. The Father De Smet ore is solid quartz, and very hard. They crush one and a half tons per day to the stamp.

"The Deadwood mill is new and has improved machinery. They crush three tons per day to the stamp.

"Two mills now running we were unable to include in the list. In addition to the number of stamps running, there will be in a few months 470 more, counting the mammoth Homestake mill—120 stamps—at Lead City, nearly complete; the new 60-stamp mill of the Golden Terra—the machinery now being set; 40 stamps to be added to the Father De Smet; and over 200 stamps undergoing repairs.

"The Caledonia, Fairview, Cheyenne, Giant, and Old Abe, and Golden Terra Extension will undoubtedly erect large mills within another year.

"From the grand total yield per month we will make a deduction of 25 per cent for stoppages on account of cleaning up and repairs, which leaves a total yield per month of $303,112.50.

"From this total we deduct 35 per cent as cost of mining and milling the ore, which leaves a profit to owners of $197,023.13 per month, and $106,089.37 pay-roll, which is disbursed among us.

"In conclusion, we will state that in nearly all of our mines simply prospecting and developing is the order of present workings, as the ore taken out in sinking and tunneling only is milled, leaving immense bodies to stope at some future time, when the mine is properly developed by winzes, cross-cuts, and tunnels; and had we water and mills, five times the number of stamps would be employed.

"A rich vein of ore has been discovered passing through the very heart of Deadwood cemetery, and the place has been transformed into a lively mining camp."

NEVADA.

THE COMSTOCK.

From the summary in the *Gold Hill News* of the 23d inst. we condense as follows:

"Important developments have been made at the north end during the week. At the Sierra Nevada the incline has taken another plunge into stringers of rich ore. The quartz is heavy with gold, and carries large quantities of silver. Whatever view is taken of this new strike, its importance remains unquestioned. If a new formation entirely, it is certainly of great value. If a rich feeder of the ore-body found above, the proof it presents that the ore-body is right at hand, and that it is still rich in metal, is no less important.

"The development of the mine in regard to depth is slow. Water interferes. The machinery does not do its work. Proper pumps can not be had on the coast, and the mine must needs send East for them.

"In Ophir, too, the signs of better things can hardly be mistaken. Whatever may be thought of the improvements in the stopes and the swinging of the ore vein to the west as it grows broader and richer, the incline is indicative. Depth seems to be wanting, but in order to get it and use it to any extent, something more than an incline is needed. It takes time to get ready. Then, the commencement of Col. Fair's great plan of development, which is to string Mexican and Union Consolidated on an immense drift from the Ophir incline to the Sierra Nevada, looks like business, especially when the pitch of the stringers of quartz toward the west all the way to Union is considered, and beyond that point, toward the east. Some do not hesitate to say, 'Two bonanzas, gentlemen.'

"The Imperial-Bullion group has the droops just a little now. Crown Point and Belcher are looking well. On the south there is nothing particularly new, except in the surface workings of the Justice."

NORTH CAROLINA.

The Rudisill Mining Company is now making regular shipments of gold sulphuret ore to the North.

It is reported that Northern capitalists have purchased a corundum mine in Clay County for $6000.

UTAH.

THE SILVER REEF DISTRICT.

We take the following notes from the Salt Lake *Tribune* of April 26th:

"The mines of this district look better than ever before in its previous history, and two thirds of the prospect now being developed show every indication of future value.

"The Thompson & McNulty mine has been bonded. The Kenner, on which active development is now progressing, is just showing up a body of high-grade ore similar to the rich pockets of the Buckeye.

"The Buckeye is yielding from a 3-stamp mill twenty tons of $35 ore per day.

"The Last Chance is being worked to excellent advantage, and though thousands of tons of ore have been extracted, the mine is in really better shape and the future prospects are more elating to the owners than ever before since the present management assumed control.

"The Stormont mill is running to its full capacity."

The camp is still overcrowded with unemployed men, whose financial condition is "getting no better very fast."

The Tombstone fever has become epidemic, and many are leaving for the scene of the new excitement.

THE SALMON FALLS GOLD MINES.

These mines are located in Cassia County.

A correspondent writing to the *Tribune* under date of April 19th says:

"The Boulder Mine consists of forty acres running 1000 yards along the river front, and extending back 200 yards. Along the front of the bar, and back from the river a short distance, holes to prospect it, about every forty yards, have been sunk, and it prospects 23 cents to the pan. I saw prospects out of all the holes, and I don't believe there was a variation of two cents in any pan of gravel taken out of any of the holes. When a man takes into consideration that a machine will work 250 or 300 tons of this gravel in twenty-four hours, it looks as if fortune was staring him in the face. The bank is thirty-five feet above the river, and about four feet of the top is a *débris* of loam and lava rock. Water is very handy to the mine."

A correspondent writing from Marysvale says: "The Deer Trail Mine is working twenty men and producing fine ore, averaging $250 to the ton, some of the ore running up as high as $1200. The discoverer of this mine says that a larger force of men will be put on next month.

"Several mines are being worked here. The snow is six and eight feet deep on the mountains, consequently not much can be done for some time in prospecting on the high range.

"It is reported, by reliable parties, that a rich strike was made recently in the lower workings of the Leeds mine. The Leeds property has been looked upon as one of the best on the White Reef, and with the steady work which we knew was going on under the direction of some of the best miners on the coast, this news does not take us by surprise."

MESSRS. BECKETT & MCDOWELL, Mining Engineers, have lately transferred their office from the Pacific coast to this city. These gentlemen have made mining and mechanical engineering their practical study for a number of years, and have, in their connection with the well-known firm of Prescott, Scott & Co. (large manufacturers of mining machinery), of San Francisco, had ample opportunities to secure valuable experience. Mr. McDowell has accepted the agency of the Hazard Manufacturing Company for the sale of wire ropes. He is now on his way West, to examine a number of mineral properties, looking to their development with new machinery.

NEW PATENTS.

The following is a list of the new inventions relating to Iron, Coal, Mining Machinery, Chemical Apparatus, and the treating of Precious Metals, etc., from *The Official Gazette of the United States Patent Office*, for the two weeks ending April 8th, 1879:

WEEK ENDING APRIL 1ST.

No. of Patent.	Title of Invention.	Name of Inventor.	Residence.
213,742	Horse-Power	Peter K. Dederick	Albany, N. Y.
213,745	Hydraulic-Engine	Levi K. Fuller	Brattleborough, Vt.
213,757	Force-Pump	William H. Kacy	Bird-in-Hand, Pa.
213,779	Automatic Telegraph	Austin G. Ryder	Taunton, Mass.
213,782	Methods of, and Machine for, Reducing Ores	John Seanor	Cedar Rapids, Ia.
213,783	Hot-Air Engine	Henry W. Sherrill (a)	Jersey City, N. J.
213,789	Process and Apparatus for Melting Ores in their Natural Situation	Cyprien Marie Tessié du Motay	Paris, France.
213,795	Electric Gas-Lighting Apparatus	M. H. H. Whiting	Chelsea, Mass.
213,813	Acoustic Telephone	James Draper	Worcester, Mass.
213,817	Hydraulic-Pump	William Foster	Brooklyn, N. Y.
213,823	Valve-Gear for Steam-Pump	Lucius J. Knowles	Worcester, Mass.
213,845	Apparatus for Burning Naphtha	Uzziel P. Smith	New York, N. Y.
213,885	Water-Motor	William R. Fox	Turnerville, Conn.
213,890	Direct-Acting Engine	William F. Garrison	Brooklyn, N. Y.
213,921	Turbine Water-Wheel	John McLucas	Redfield, Iowa.
213,929	Signaling Apparatus for Telephones	Adolph Paris	Hamburg, Ger.
213,952	Hydraulic Engine	James Talley, Jr.	Kansas City, Mo.

REISSUE.

8,653	Jiggers for Separating Ores	William H. Plump (b)	Paterson, N. J.

(a) Assignor to Roper Hot-Air Engine Co., New York.
(b) " to Joseph A. Sterling, " "

WEEK ENDING APRIL 8TH

213,998	Testing-Machine	Tinius Olsen	Philadelphia, Pa.
214,004	Steam Fire-Engine	John E. Prunty	Waverley, Md.
214,014	Automatic Weighing-Machine	John R. Williams	Newark, N. J.
214,029	Speaking-Telephone	Adolf Eccard	Washington, D. C.
214,042	Process and Apparatus for the Manufacture of Coal-Gas	Charles W. Isbell	Brooklyn, N. Y.
214,055	Extracting Precious Metals from Ores	John A. Robertson	Oakland, Cal.
214,082	Electric Motor	George H. Bangs	New York, N. Y.
211,086	Coke-Oven	Leon Bemelmans	Kanawha C. H., W. Va.
214,088	Manufacture of Steel	Ogden Bolton	Canton, O.
214,109	Elevating Apparatus	Thomas Critchlow	Steel Works, Pa.
214,132	Oil-Testing Machine	Chas. M. Higginson (a)	Chicago, Ill.
214,183	Regenerators for Reverberatory Furnaces	Samuel T. Owens	Allegheny, Pa.
214,199	Apparatus for the Contnuous Distillation of Hydrocarbon Oils	Watson Ryder	Philadelphia, Pa.
214,228	Pump	John Y. Wren	Plymouth, Pa.

(a) Assignor to Ashcroft Manufacturing Co., same place.

PROPOSALS.

For the benefit of many of our readers, we compile weekly such proposals and solicitations for contracts, etc., as may be of interest. The table indicates the character of proposals wanted, the full name and address of parties soliciting, and the latest date at which they will be received:

Furnishing Stone for Crib Work; G. Weitzel, Major of Engineers, Detroit, Mich	May	5,	1879
Lard, Oil, Castings, Pipes, etc., for Water-Works; William C. McCarthy, Comptroller, Pittsburg	"	"	"
Belgian Block Pavement; Michael Davis, Orange, N. J	"	"	"
Broken Stone; Michael Davis, Orange, N. J	"	"	"
Improvement of Saginaw River, Mich.; F. Harwood, Major of Engineers, Detroit, Mich	"	7,	"
Russia Hemp, 50 tons; C. J. Emery, Day Director U.S.N., 45 Milk street, Boston, Mass	"	8,	"
Grading, etc.; G. W. Merrill, City Clerk, Toledo, Ohio	"	9,	"
Heating Apparatus; R. A. Mott, Faribault, Minn	"	10,	"
Plumbing and Gas Piping; John Fraser, Acting Super. Architect, Washington, D. C	"	12,	"
Land Surveys, Texas; Comptroller of Public Accounts, Austin, Texas	"	15,	"
Hospital Building; A. A. Lewis, Weston, W. Va	"	21,	"
Building; David W. Gibbs, Xenia, O	June	3,	"
Designs for Pumping-Machinery, for which premiums will be paid, as follows: 1st best design, $500; 2d best, $300; 3d best, $200; W. E. Cutshaw, City Engineer, Richmond, Va	July	1,	"
100,000 tons of Steel Rails to be Manufactured in New Zealand; John Knowles, Under Secretary for Public Works, Wellington, New Zealand	Sept.	30,	"

THE COAL TRADE REVIEW.

NEW YORK, Friday Evening, May 2, 1879.

Anthracite.

The very low prices have brought about a very active demand for coal. There has, however, been an active competition, especially between the Lackawanna companies, with the result of keeping prices down, if not actually making them lower. It is said that there is a very ill feeling existing between these companies, and that the outlook for an arrangement is darker than at any previous time. Some of the companies appear to be determined to have a combination or lose money, and make the other companies do the same. Buyers, however, have come to their senses, and are purchasing quite freely, so that after a while, should the companies desire to advance prices they (the buyers) can withhold their orders again, and by so doing continue a weak market. The very liberal purchases that are being made now will probably result in a period of quietness during the summer. Although stocks have been somewhat replenished, yet they are by no means large anywhere. The very low Western freights are developing, in connection with the low prices of coal, a very active demand.

On Wednesday, the usual monthly auction sale of the Delaware, Lackawanna & Western RR. Co. took place. The attendance was very large. There appeared to be a fear among buyers that they would pay too much, and it required the usual manipulation and propping to get the bidding started; but after it was once started, it was quite spirited. Although the prices received were quite discouraging, yet the demand shown was an encouraging feature. The following quantities of coal were sold and average prices received, comparison being made with the previous sale by the same company and the last sale of the Delaware & Hudson Canal Co.:

Quantity sold April 30th—Tons.	Average prices.	Av. prices D., L. & W. RR. Co. March 26th.	Av. prices D. & H. Can. Co. April.
5,000 Steamer	$2.02½	$2.17½	$2.03
25,000 Broken	2.05	2.19¾	2.06
20,000 Egg	2.09¼	2.18	2.09¼
50,000 Stove	2.39½	2.52	2.48½
10,000 Chestnut	2.26½	2.34	2.27½
General average	$2.23⅛	$2.35	$2.25¾

In the outside markets the prices are comparatively as low as, if not lower than here. From our correspondence we glean that 5000 tons of broken coal are to be delivered in the sheds of the Buffalo Water-Works, at $2.35 per net ton. Still, a very brisk inquiry is reported in that city. Anthracite coal has been offered in Chicago at $3.25 per ton. It is evident that the Western markets are not, as a rule, profitable ones to the producers of anthracite coal.

The Delaware, Lackawanna & Western RR. Co. have issued, under date of April 17th, the following circulars:

"The arrangements heretofore existing between this company, the Delaware & Hudson Canal Company, J. Langdon & Co., and W. L. Scott & Co., under which the joint coal business of the several parties in the Western market has been known to the trade as that of the 'Anthracite Coal Association,' will terminate May 1st, and that Association will no longer continue.

"This company will be represented in the interior and Western markets by the following named persons: W. R. Storrs, General Coal Agent, Scranton, Pa.; W. R. Humphrey, agent, Ithaca, N. Y.; McKinney & Albright, agents, Utica, N.Y.; A. G. Cook, agent, Oswego, N. Y.; Holden Bros., agents, Syracuse, N. Y.; Seymours & Co., agents, Montreal, Canada; Robert Law, agent, Chicago, Ill.; S. C. Schenck, agent, Toledo, O.; J. J. McWilliams, Western Sales Agent, Buffalo, N. Y. The company's coal will also be for sale by E. L. Hedstrom, Buffalo, N. Y., and E. L. Hedstrom & Co., Chicago, Ill.

"E. R. HOLDEN, General Sales Agent.

"Beginning with May 1st, all the coal sales of the company, except retail sales, will be made, and all coal accounts kept in gross tons of 2240 lbs.

"E. R. HOLDEN, General Sales Agent."

The production of anthracite coal last week was 495,290 tons, as compared with 475,249 tons the previous week, and 178,252 tons the corresponding week of 1878. The total output from January 1st to April 26th was 6,569,180 tons, as against 3,782,816 tons for the like period of last year, showing an increase this year of 2,786,364 tons.

PHILADELPHIA, May 1, 1879.

The trade here is not affected by the slight decline at the sale yesterday. The demand is active at April rates for city and line trade, and at tide water pretty much every body is sold out for as much as they expect to get off this month, and for probably much more than will be actually shipped. The scarcity of vessels continues, and freights to all points are higher, $1.65@$1.70 to Boston; 90@95c. to Washington; 70c. to Norfolk. If the supply of vessels becomes good before long, there will be a large amount of coal shipped this month.

A dispatch from Pottsville says:

"The Philadelphia & Reading Coal and Iron Company has issued a circular to its tenants in which it says it will refund to its lessees on account of coal mines from its lands in the month of May all royalties paid to it under their several leases in excess of the amounts following: For white ash collieries, lump and prepared coal, 15 cents; chestnut, 10; pea, 5; for all other collieries, lump and prepared, 20 cents; chestnut, 10; pea, 5. This puts the individual operators mining coal from the Reading Company's land on an equal footing with the large companies."

Is is evident that the Reading Company intends to continue a large tonnage; for with the very low rates of tolls it now offers its individual operators, even the low prices of coal should not stop operations.

The Philadelphia *Ledger* of April 28th says:

"The New York parties, if they further persist in selling at a loss, will be permitted the privilege of taking the trade, while the Philadelphia companies, nearly all of which are largely oversold, will content themselves with supplying their short deliveries. The indications of the trade now unmistakably point to higher prices of coal in the near future. Even the more inferior coals sold at auction can not be afforded at the present low prices, and the more favored coals that come from the Lehigh and Schuylkill regions, and which are mainly furnished by the Philadelphia companies, will not be. The supply of coal in the market is now unusually short for this period of the year, and interruption in the regions during the year from strike, drought, or any cause, is a hazard taken by consumers in favor of producers. Should trouble arise from any reason, and the supply of labor at the mines be found short, as is now daily threatened by the removal and change of miners to new pursuits, it will be impossible to make up the present short supply, much less to meet any extra demand that may arise. It can be hardly possible that any one will make a mistake in laying in his supply of coal at now current prices. From the present stand-point in the trade, the future of the market is in favor of the coal operators. Prices it does not seem possible to depress to lower figures; nor can the shipments be materially increased by reason of the scarcity of vessels. Some sizes of coal are now badly wanted, and, could immediate deliveries be made, an advance in the prices could be realized. In fact, the whole market is in that condition that a slight concert of action with operators would at once advance prices. The most discouraging feature of the trade just at present is the fact of the large supply of coal sold ahead. If the prices should go up, it would be some time before operators could realize much advantage from it. The only true policy of operators now is to sell no more coal than will command paying prices."

The Pottsville (Pa.) *Miners' Journal* of April 25th says:

"There is not much prospect of a combination just now, and indeed there could be none formed that would restrict operations, as there is so much coal sold ahead. After the 1st of June, there will be no necessity for such a measure. The only effect it could have produced during the early part of the year would have been to get a small advance of price, and this, it is thought, will be obtained for the last half, without a combination. Every visit made by Mr. Gowen or Judge Packer to New York furnishes sufficient provocation for some of the papers of that city to get up fresh prospects of a combination; but we believe the project has now been abandoned by all those who most desired it."

Bituminous.

The leading business of the week has been a contract to supply the Old Colony RR. with Cumberland coal for a year at a very low price. There is said to have been a liberal amount of business in a small way.

We publish the following letters from our regular correspondents. Prices are given on another page:

"BUFFALO, April 28, 1879.

"The only thing of note here is tenders for 5000 tons of grate coal *delivered in the sheds* of the Buffalo Water-Works, alongside of the canal. Tenders were by George Dakin, net tons, $2.35; Lee & Loomis, net tons, $2.65; D., L & W. RR. Co., net tons, $2.67. These prices are certainly low enough to suit the biggest bear on the market."

"BUFFALO, N. Y., April 29, 1879.

"The coal market is in a very unsettled condition. Prices on cars and in canal-boats range from $3@$3.25 per gross ton, and rumors are afloat that even these extremely low figures are being discounted in some cases. A very brisk inquiry exists, and doubtless many sales are being made on the basis of the above figures. Retail prices are from $3.75 to $4 per net ton, delivered to customers."

"CHICAGO, April 28, 1879.

"The stock of anthracite coal on docks is small; still the owners are anxious to be rid of it, and sales to the trade have been made at $3.25 per ton.

"By cars the supply of anthracite coal is abundant, and prices irregular; offered at $3.70 per ton on track.

"The yards are bare of Erie and Briar Hill coal. Anthracite coal can be laid down in Chicago at less cost than the best bituminous coal from Ohio.

"A change in the retail prices of coal will be made as soon as navigation is fully opened on the Lakes."

"CINCINNATI, April 28, 1879.

"The prolonged strike of the miners about Pittsburg served the good purpose of cleaning up the stocks in nearly all the markets on the Ohio and Mississippi rivers. After the mines started, the first month was mainly occupied by the operators in filling their contracts in the lower markets.

"The quantity of second pool offered in this market thus far has been very small; the open price has been 7½ to 8 cents per bushel, afloat; but most of the coal which has been put in here has gone in at special contract prices, ranging from 6 to 7 cents."

"CLEVELAND, April 30, 1879.

"The last week has seen the first shipments of the season for the upper lakes. Stocks on hand in Chicago, Milwaukee, Detroit, and other points are small, but an immense amount of rail coal has been poured into these places during the winter, so that less than the usual amount will go forward by lake on the opening.

"As the Welland Canal has not yet opened, Canada shipments have not yet begun. The extremely low price of anthracite coal, and the duty of 50 cents per ton, will doubtless have an unfavorable effect on shipments of soft coal.

"Prices for all grades of soft coal are very low—lower, indeed, than last year. The event of the week in this market has been an attempt on the part of two or three of the heaviest operators to control the product of the Massillon region.

"To this end, they have secured all but a few of the smaller mines, and have made such arrangements with the boatmen that they will control a large majority of the tonnage of the canal. When all their arrangements are carried into effect, we look for greater strength in prices and less cutting."

"HAMILTON, ONT., April 29, 1879.

"The season just closed in the coal trade here, though one of considerable activity, can scarcely be characterized as one of marked success, principally owing to the large stocks of coal carried over from last season. These, however, are pretty well cleaned out, and the future has a more promising aspect.

"I anticipate that the great bulk of our coal will be brought in by rail in future, rail shipments having a decided advantage over the coal sent in by vessels during the summer as heretofore. Inclosed herewith I hand you opening prices for May."

"INDIANAPOLIS, April 28, 1879.

"Since the 1st of April, our miners in Clay County, this State, have been upon a strike, and our market is entirely bare of block coal.

"The only changes to be made are as follows:

"White River, $2.50 per ton wholesale, aboard cars; Sand Creek, $2.50 per ton wholesale, aboard cars; Lackawanna, per ton, $5.50 wholesale, all sizes. White River and Sand Creek coals retail for 12 cents per bushel."

"ST. LOUIS, April 26, 1879.

"The past season has been very satisfactory to the coal trade, owing in a great measure to a continued cold winter. The prices obtained were not high, but the tonnage was larger than ever before known. As soon as the statistics come out, will send you a copy of them."

"TOLEDO, O., April 28, 1879.

"As yet there has been no hard coal received at this port this season, via lake, and the rail freights are not arranged, so that the prices remain unchanged.

Stocks have been very greatly reduced—so much so, that the market has been supplied by rail for the past three months. Retail prices unchanged.

"Soft coal has become a very important commodity with us, and the outlook for an increased tonnage by lake from this point is very favorable. The Columbus & Toledo Railway have put us on the same footing with other shipping ports, and we are thus enabled to meet the competition. As regards lake freights, we can make charters at same rates of freights to Lakes Michigan and Huron ports as from Sandusky and Cleveland. We quote the present prices for Hocking Valley and Straitsville: Lump, $2.40; and nut, $2, f. o. b. vessel, per ton of 2000 lbs."

PITTSBURG, May 1, 1879.

COAL.—Since our last weekly report, the water has been too low for deep-laden coal crafts, but as most of the tugs went down with the late shipments, this condition of the navigation was but a slight hinderance in the way of trade. The tugs are slowly returning with empty floatage, and can continue to do so until the river recedes to 3 feet, which may not occur for a week or ten days, even should there be no heavy rain within that time. The mines are all full stocked with hands, and it will be but a short time before twelve or fifteen million bushels will be on board ready for descent to the lower markets. This quantity will stock all the floatage on hand, so that no more mining can be carried on until high water again renews the transportation, and effects the usual exchanges of discharged vessels from below for loaded ones from the mine. Meanwhile there has been no improvement in the business, nor is it possible to discover any reason within the range of probability why there should be. Nothing but a close and strictly-maintained combination of all the coal districts in the Ohio Valley could make the trade from this quarter fairly remunerative—and the effecting of such a combination is clearly most improbable, if not impossible. Under this view it seems most likely when the present stock of tugs and floatage wears out, renewals will gradually cease, and the business will be generally discontinued, except for the production of the limited quantities wanted on account of the superior qualities, for certain purposes, of the Pittsburg coal. Prices being fastened by determined operators in regions lower down the Ohio, our quotations are like flags nailed to the mast—they neither run higher nor lower:

PRICES AT PITTSBURG.

Wholesale, on board.....	4 cts. per bushel.	$1.06 per ton.
Retail, delivered..... ...	5½ cts. "	1.46 "

AT CINCINNATI.

Wholesale, on board.....	6 cts. per bushel.....	$1.59 per ton.
Retail, delivered	7½ cts. "	1.99 "

AT LOUISVILLE.

Wholesale, on board.....	6 cts. per bushel.....	$1.59 per ton.
Retail, delivered.....	7½ cts. "	1.99 "

AT NEW ORLEANS.

Wholesale, on board.....25	cts. per barrel.....	$2.42 per ton.
Retail, delivered.....40	cts. "	3.87 "

Bushels are rated among dealers here at 76 lbs.—26½ bushels make a ton nearly. The barrel that rules the coal measurement in New Orleans contains 2 4-7 bushels of 80 lbs. each, making about 200 lbs. Nine and two thirds of these barrels weigh a ton, within a small fraction.

COKE.—The calculation among the manufacturers is, that 500 bushels of coal produce 600 bushels of coke. This may do for that kind of measurement; but in weight it is entirely different. Five hundred bushels of coal, 76 lbs. to the bushel, weigh 38,000 lbs.; 600 bushels of coke, 40 lbs. to the bushel, weigh 24,000 lbs., or 14,000 lbs. less than the coal from which it is made. The 14,000 lbs. is a loss of weight, while in measure there is a gain of 100 bushels. These results are curious and interesting. The trade at the seat of manufacture is settled again in its steady course—the supply and demand are again equally adjusted, and not a ripple is left of the late disturbance made by the striking miners. Quotations remain steady—$1.15 to $1.30 per ton of 2000 lbs. on board cars at ovens. —*American Manufacturer.*

The San Francisco *Commercial Herald* of April 24th says of coal: "Imports from January 1st to April 1st: Anthracite, 1973 tons; Coos Bay, 8523 tons; Vancouver Island, 37,300 tons; Seattle, 34,129 tons; Carmel Bay, 200 tons; Cumberland, 626 tons; Carbondale, 746 tons.

"We have advices from British Columbia that the Wellington mines have been overtaken with a sad disaster, occasioning the loss of life by an explosion, and that one of the levels has been flooded with water, owing to a fire therein. How extensive the damage we are not yet advised, but doubtless it will cause some slight stoppage of supplies. Our receipts during the week have been liberal, and include the Canada's cargo of 1584 tons Wallsend, which was sold prior to arrival at full figures. From Seattle we have the Webfoot with 602 tons; Modoc, 623 tons; North Bend, 560 tons; Henry Buck, 1006 tons; Aureola, 1350 tons; from Wellington, per Ericsson, 2270 tons; Amelia, 600 tons, and the Gussie Telfair, from Coos Bay, with 380 tons; Seminole, from New York, 297 tons. The general market is very dull, and prices so low that receivers are loth to give actual quotations. California Mt. Diablo Steam sells at $4@$4.50; Australian, $6.75@$7.50; Coos Bay, $5.75; Seattle, Nanaimo, etc., $7, or thereabouts; all other kinds in proportion. The Leon, for Petropaulovski, carried 450 tons. The Twilight and Norway, from Coos Bay, brought 230 tons and 325 tons, respectively."

MINERS SAVED FROM A HORRIBLE DEATH.

On Wednesday, April 23d, a party of seven miners were entombed in the Sugar Notch mine of the Lehigh & Wilkes-Barre Coal Co., near Wilkes-Barre, Pa., by the roof falling in. They were rescued on the morning of April 28th—it having been necessary for their comrades, who were so fortunate as to escape, and those who were not in the mine at the time of the fall, to make a new opening. Fortunately, the men who were confined escaped to a portion of the mine where the roof was safe, and took with them a mule. During the second day of their confinement, the mule was killed, and served as food until their release. The pumps and fan were kept running, so there was no trouble from water or bad air.

RUSSIAN IMPORTS OF IRON AND COAL.

A return of Russian imports and exports shows that the business of the country was much better last year than in 1877, the termination of the exhausting war with Turkey having allowed of a development of industry. The imports were as follows:

	1877. Pouds.	1878. Pouds.
Pig-iron	3,229,269	6,415,547
Bars, sheets, etc.....	4,526,698	7,187 002
Iron rails	1,029,084	304,642
Steel rails.....	10,422,111	9,211,727
Coal and other fuel	90,367,737	111,119.150
Locomotives.....	1,928,111	3,153.435

In this return the increases are very marked, except in the case of iron rails, which, as in England, appear to be giving way to steel rails. The poud, we may remark, is 43 lbs. weight. Of iron of all kinds, Russia exported 69,996 pouds in 1877, and 147,864 pouds in 1878.

IRON MARKET REVIEW.

NEW YORK, Friday Evening, April 25, 1879.

American Pig.—There still continues to be a very fair business, and prices are firm. We notice sales of a lot of Lehigh iron to go to California; about 1500 tons of Nos. 1 and 2 Foundry, Thomas iron, at $18.50 and $17, respectively; 500 tons of No. 2 Foundry, North River iron, on private terms, and a considerable quantity of Glendon Forge, at $17. The latter company is now well sold ahead. Shipments of iron to the West are being made daily, and this business, with a continuation of low freights, promises to develop into great importance. The outlook is very encouraging for at least steady if not higher prices. We quote No. 1 Foundry at $18.50@$19; No. 2 Foundry, $17; and Forge, $16.

Scotch Pig.—A lot of 200 tons of Eglinton which arrived yesterday was sold previous to arrival. There are small sales being constantly made, at quotations. We quote Eglinton at $19@$19.50; Gartsherrie, $21@$21.50; and Coltness, $22@$22.50.

Rails.—We only learn of a sale of 1000 tons of steel. We continue to quote steel rails at $43@$44 at mills, and iron rails at $35@$36 here.

Old Rails.—A sale of 600 tons is reported. We quote at $21.

Wrought Scrap.—We only learn of a sale of 100 tons, at $24, and quote at $24@$25. Purchases made in England a month ago are now arriving.

Our St. Louis correspondent writes, April 28th:

"Pig-iron remains unchanged in price and movement."

Baltimore advices of the same date say:

"The iron market remains about the same as last reported, and we continue last quotations."

From Louisville we have the following, dated April 29th:

"Pig-iron is firm in price, with a fair demand for this time of the year. Most furnaces in this section are sold largely ahead, and show no anxiety to press sales."

Messrs. King, Gilbert & Warner, of Columbus, Ohio, write, under date of April 30th:

"The demand for pig-iron the past week has been fairly active. There is no disposition to press sales, as furnaces, as a rule, have light stocks on hand. Concessions are not being made to effect sales. We quote same as last week."

THE BRITISH IRON MARKET.

From the circular of Messrs. SANDERS Brothers, of London, dated April 15th, we extract the following:

"The business in iron rails is almost suspended by the low price of steel, and orders have not been given out so freely lately for steel, buyers waiting to see what effect the rumored success of Middlesbrough in making steel from native pigs will have on prices.

"The advance in price of Scotch pig-iron advised in our last issue was maintained for a short time, up to 44s. 9d. to 45s. being paid for warrants; but on demand slackening, the market drooped, and transactions took place about the beginning of the present month at as low as 42s. 6d. Since then, however, rather more buoyancy has been apparent, and the price has rallied to 43s., with a good business passing. Makers' iron will be seen to have fallen slightly in price, but the shipments for the month are good as compared with corresponding period last year, the weekly average showing an improvement of over 2500 tons. The stocks of pig-iron in store at Glasgow amount to about 240,000, or about 40,000 tons in excess of what they were at the commencement of the year. In Staffordshire there is no change to report as regards raw iron; £3 5s. is quoted for hot, and £4 5s. for cold-blast pig. Only about one sixth of the total number of furnaces erected in this district are now in blast. A strike of colliers against a 15 per cent reduction of wages has taken place in the North of England, and seems likely to prove of a very disastrous character, as at present there are no signs of giving way on either side.

"In Bessemer hematite pig-iron there has been a dearth of orders lately, and makers at the Birmingham quarterly meeting reduced their quotations, bringing price of No. 3 down to 51s. to 52s. per ton.

"*Spiegeleisen.*—£4 7s. 6d. for 20 per cent English f. o. b. convenient port. Demand is slack, and makers are making a concession of fully 5s. per ton in price to induce fresh orders.

"*Ferro-Manganese.*—Firm in price, with increasing demand, especially for high strengths, say 60 to 80 per cent.

"Very little change has taken place in the market for manufactured iron since our last. The same slackness of demand prevails, with little or no prospect of improvement, and makers all round are very short of work, which causes what few orders there are offering to be keenly competed for, no matter how unimportant they may be. A slight stimulus has been given to the export trade by the reopening of navigation in the north of Europe; but, on the other hand, demand from the Australian colonies is not so brisk as it was a month or so back. Prices are nominally unaltered, £7 10s. being the standard for marked and £6 for unmarked bars. There is, however, a great deal of underselling going on, and we hear of some extraordinarily low figures being accepted, notably one case in which an order for hoop-iron of awkward gauges has been taken at three pounds per ton below the maker's standard quotation. A return issued of the manufactured-iron trade in the Northern districts discloses an unsatisfactory state of things. The average net selling price of bars, angles, plates, and rails for the quarter just ended is £5 14s. 8d., or 4s. less than the previous quarter, and a fall of 12s. 8d. in twelve months. The production during the past quarter was only 75,000 tons, as compared with 107,000 tons in the previous one, or more than 25 per cent less.

"At the iron-masters' quarterly meeting, held in Birmingham on the 10th inst., buyers exhibited no disposition to operate at all freely, and transactions all round were of an unimportant character."

COAL AND IRON NOTES.

GOOD coal has been found at Box Elder, twenty miles north of Greeley, Colo.

THE discovery of coal in Northern California is attracting capital in that direction.

THE Prospect Hill coal mine, at East Palestine, Ohio, is about starting

up full time with about forty men in, and more will be added at once. They will ship from eight to ten cars daily.

The Leechburg, Pa., Coal Company has lately made a large purchase of coal lands in the vicinity of its works.

COAL DISCOVERIES.—The Niles *Independent* says: "Parties drilling on the Rees Herbert farm, between Youngstown and Liberty, O., find good coal. There are miles of territory there undeveloped, embracing all lands between the Niles shaft, Kline slope, and the old Brier Hill and Crab Creek mines."

NEW BRUNSWICK MANGANESE MINES.—The *Monetary Times* says: "The manganese mines at Markhamville, near St. John's, are reopening for spring development. One hundred tons of manganese, which is used in making Bessemer steel, and is also employed in medicine, have just been shipped to Bristol Channel, and 300 tons are now going to Philadelphia from Markhamville."

A NEW WEST VIRGINIA COAL COMPANY.—A track of coal land containing 1000 acres lying on the Pan Handle Railroad, on the line between Washington County and Brooke County, W. Va., has been sold to a company of Pittsburg capitalists. In addition to the property purchased, the company owns a tract of 1400 acres, lying near Hanlin Station. It is stated that the company proposes to open mines during the coming summer.

THE IRON INDUSTRY IN NOVA SCOTIA.—The works of the Nova Scotia Forge Company on the East River, New Glasgow, near the Pictou Branch Railway, have a capacity for manufacturing 2000 tons iron per annum, of ship's-knees, car axles, and railway forgings, and employ already from 30 to 40 men. They have a main building 180 feet by 65 feet, with wings 30 by 45 and 40 by 45 feet, of wood, beside office and coal sheds. Among the equipments are four steam-hammers, ten cranes, three furnaces, and eight forges; planers, car-axle trimmers, a screw-bolt machine, a hydraulic ship's-knee bender. A spur of the Intercolonial Railway connects with the works.

THE SHARPSVILLE & LAKE SHORE RR. CO.—Articles of association have been filed and a charter issued incorporating this company, which purposes to build a railroad from Sharpsville to Ashtabula, on Lake Erie, or such part as will make a line of road through to the lake. The distance from Sharpsville to the Mahoning coal road at Kinsman (Ohio), is about 11 miles, via the Shenango River to the Pymatuning Creek, and thence up the Pymatuning to a connection with the Mahoning coal road. Engineer Goodwin is now locating the line as above described. This project has been contemplated for several years past as an extension of the Sharpsville Railroad, and presents much the shortest and best route from the Shenango Valley to the lake.

TENNESSEE ZINC WORKS.—The *American Manufacturer* says: "A Chicago company has been operating a zinc mine in Caliborne County, Tenn., about 100 miles from Knoxville, on Clinch River. Their present means of transport is by river to Coal Creek, and thence to Knoxville by rail, or by river to Chattanooga, and thence by rail to northern furnaces. They have sold a large lot of ore to the Zinc Smelting Works at Carondelet, Mo., which is being shipped now by the latter route. The deposit is large and rich, being an average of 16 feet surface and 30 feet thick. A small force has been working the mine for two years, and has put out, of clean, selected ore, some 600 tons. The mine having been fully tested, its owners have determined to erect smelting works at some point on the Knoxville and Ohio Railway, near Knoxville, and have taken preliminary steps to that end. There are, besides this, and only a few miles from it, several other rich leads of zinc ore, one of which, in Union County, has been worked profitably several years, principally in the interest of a smelting company in New York City."

THE STATE LINE COAL WORKS.—The *Pittsburg Telegraph* says:

"The mines of this company are located at East Palestine, Ohio, and are now running to their full capacity. This property was opened up in a small way something over four years ago, and has gradually increased, until it is, undoubtedly, the largest shipper of coal in that State. Its output of coal will average about 51 flats a day the year round. About 400 men are constantly employed in the mines and about the works. Last year's shipments amounted to over 110,000 tons of clean coal. They make three grades of coal, having a slack-rusher, into which the slack is run, washed and cleaned, and making a grade called ped coal. The coal is brought out of the mine by an endless wire-rope one mile in length, some thirty full cars being brought out at a trip. The company has been working the lower or four-foot vein, but has driven an inside slope about a half-mile from the mouth of the pit, up into the three-foot vein, and will bring the coal down this slope and out by the endless chain. They are at present only driving entry in this vein, but are also driving from the back hill outside to meet the inside workings, which, when finished, will give them good air. The upper vein is rather of a better quality of coal, and will, doubtless, give them a still larger trade. The Fort Wayne Railroad has been taking all the coal mined by this company.

OPENING NEW COAL LANDS IN THE CUMBERLAND REGION.—The *Times* of April 23d says:

"It has been known for a long time that a large vein of coal cropped out on the river side of Dan's Mountain, and it was generally credited with being the six-foot vein which underlies the big vein of coal. The lay of strata and the poor facilities for getting the product to market have prevented a full investigation of the outcrop, though the Grant Coal Company has been trying for some time to reach the vein by tunneling the mountain on the opposite side, on the line of the Eckhart Road, and it is thought they have almost reached it. For some days past, the vein on the river side has been worked with a view to ascertain its size and the quality of coal. Yesterday a wagon-load was brought to town, and the coal is pronounced, by those who ought to know, to be superior even to the fourteen-foot vein.

"The vein is eight feet in thickness, which is an unexpected development, as there has been no such vein discovered in this region before; all those opened up ranging from very small veins to four-foot, six-foot, and fourteen-foot coal.

"The difficulty in working the new coal on the river side of the mountain, is the fact that the dip is downward, and consequently the flow of water will be to the back of the mine, and a pump will be necessary in its working. Besides, there is trouble in getting the coal to an outlet for market. But if the quality of the coal shall be maintained, these difficulties will be overcome. The property on which the coal has been opened belongs to Dr. S. P. Smith, of this city, and consists, we believe, of several thousand acres, making it one of the most valuable pieces of land in the county.

"If the coal shall prove to be a regular eight-foot vein, it will demonstrate the fact that there is yet a heretofore undiscovered layer of coal under our entire region."

THE WAGES QUESTION.—The miners of coking coal in the Connellsville region, after standing out several weeks for an advance of five cents a wagon, have gone to work again at the old price—twenty-five cents a wagon.

Affairs about the mines at Pomeroy, O., and in that vicinity seem to be again pretty well settled. The miners of the Pomeroy Coal Company, including the Dabney, Peacock, Diamond, and Minersville mines, have renewed their contract for another six months at the old terms—$2 per 100 bushels for clean coal, and $1.60 for mixed coal—and all are running. On this basis all other mines run.

Scottdale, Pa.: The strike on the Mt. Pleasant Branch is over.

The coal-works at Leechburg, Pa., are running five days per week, at 50 cents per ton. About one hundred men are employed steadily.

Richmond, Mo.: The miners here are working about half-time. The miners of Bevier and West Lingo, in Macon County, Mo., are on strike against a reduction of one half cent per bushel.

All mines in full operation along the Monongahela, except the Port Porry mine of Brown's. The Saltsburg mine is running at 2¾ cents, with about thirty men in. The ejectment suit has been decided against the men. The camp at Demler Station still continues, the men in the other mines at work supporting those standing out. It is estimated that 8000 men are now at work along the Monongahela.

A strike was inaugurated last week at the works along the Pennsylvania Railroad, at Irwin's, Paintertown, and Larimer. An advance of ten cents per ton was asked, and being refused, work was suspended. The Westmoreland slope miners now get thirty cents, Northsiders thirty-five cents, Southsiders forty, and the Pennsylvania Gas Company's miners forty cents per ton.

The miners of this latter company have made a demand for an advance of 50 cents on the hundred bushels. That will make them $2.50, providing they get the advance asked for.

The miners employed at Moore's Station and Sewickley are on a strike for 2½ cents.

THE HAWK'S NEST COAL-FIELDS OF WEST VIRGINIA.—A correspondent of the *Pittsburg Telegraph*, writing from Hawk's Nest, under date of April 26th, says:

"Arriving at Hawk's Nest, a short distance above the mouth of New River, we find it a mountainous region, and rather a dividing line between the two coal-fields, the Kanawha, with its gas and splint coals, and the New River, with its coking and steam coals. The place derives its name from a large, square, hanging rock away on top of the mountain, overhanging the river. At this point the Gauley and New rivers form a junction. Up the Gauley River you see the towering Gauley Mountains, but as yet no developments have been made in coal or iron, there being no facilities for bringing them forward, but we learn both are in abundance. At Hawk's Nest the railroad crosses the New River, and winds its way along the base of the mountains on the right bank of the river, along which are in operation a number of large collieries, coke ovens, and a large furnace.

"At Hawk's Nest and along the Chesapeake & Ohio Railroad, as far as Quinemont, in the New River District, there are a number of large collieries in operation engaged in shipping coal and manufacturing coke. The coal is a fine red-ash steam coal, making no cinders, and makes a coke of the first grade for metallurgical uses—analyzing 91 to 93·85 per cent fixed carbon; 5 to 6 per cent ash; and 0·3 to 0·4 sulphur. It has been used with the best results at the Quinemont, Longdale, Callie, and Elizabeth furnaces upon the line of road, and at the Huntington, Ironton, and other furnaces and foundries of the Ohio Valley. The first coke ovens of this district were built in 1874; there are now in operation, or just completed, 192 coke ovens, and several of the companies are preparing to make additions to their works this spring. We also learned from a reliable source that Pittsburg parties are about closing for a tract of ten thousand acres just above Quinemont, and will open up and enter largely in the manufacture of coke.

"The coal mined at Hawk's Nest differs slightly from either that above or below, but is said to be a good steam coal. Eckles & Pate are mining about 50 tons daily, giving employment to about 25 men. The Wilmot Brothers have opened up a new mine, and have in about 15 men at present. The mine of the English Company, known as the Gauley Kanawha Coal Company, at Anstead, two miles from this point, and at which place the Pittsburg Miners' Coöperative Company met with such disaster a little over a year ago, is operating it. They have a contract with a Maine railroad for 200 tons a day for a year, with prospects of an increase. It is claimed they have got through into a better quality of coal than the Pittsburgers were working.

"The Nuttallburg mines were opened up and are operated by an old Pennsylvanian, Mr. John Nuttall, of Phillipsburg. They are run steadily the year round, and employ about seventy men and ship coal both east and west, and manufacture coke. The mine is away up in the mountain, and is reached by an incline 1400 feet in length. The coal averages from 3½ to 4 feet in height.

"Four miles up the road, at Sewell, are the mine and coke ovens of the Longdale Coal and Iron Co. These works are constantly in operation the year round, and manufacture all coal mined into coke, which is shipped by rail to the Longdale furnace, Virginia. Mounting a coal car at the foot of the mountain, we are hoisted up 1700 feet to the mouth of the mine. About 35 men are employed at these works, a vacancy very seldom occurring, they run so steadily. The price for mining in this region is fifty cents per ton. At the foot of the incline, some forty coke ovens are constantly in blast.

"Three miles from Sewell, at Fire Creek, are the works of the Fire Creek Coal and Coke Co., in charge of Mr. M. Erskine Miller. They employ from 75 to 100 men, and are manufacturing coke and shipping coal.

Their coal is meeting with good sale, and the coke manufactured by them is of good quality. Mr. Miller expects to make additions to his coke works this spring and to increase his sales both in coal and coke. The coal has a good reputation for fuel, steam, and blacksmith purposes.

"Between Nuttallburg and Fire Creek, the Messrs. Berry, Williams & Cooper are opening a new mine into a four-foot vein of coal, and expect to have their incline built and be ready to ship coal some time in May.

"The Quinemont furnace is about 26 miles from Hawk's Nest, and the last works in the New River district. The furnace has been in blast for about five years, with the exception of short intervals when out for repairs. About 180 men are employed at the different works. The mine is a mile from the furnace, and is reached by an incline 2200 feet in length. At the foot of the incline 80 coke ovens are in blast, in which all the coal mined is manufactured into coke. A railroad is run from the ovens to the furnace, over which the coke is transported. These works have been prosperous in the panicky times, and the future seems bright for them."

THE COAL RESOURCES OF UTAH.—From an article in the Salt Lake *Tribune* of April 19th, 1879, on the resources and attractions of Utah, we make the following extracts concerning the coal resources of the territory:

"The records of the Salt Lake Land Office show that 125,980 acres have been returned on the surveyors' plats as coal lands since 1870, from the counties and localities subjoined as follows:

County.	Locality.	Acres.
Kane	North of Kanab	35,696
Kane	On the Pahria	13,688
San Pete	Pleasant Valley	34,332
Sevier	Lower Castle Valley	11,013
Iron	Between Iron City and Parowan	6,240
Wahsatch	Green River	2,840
Summit	About Coalville	19,931
Tooele	South of Ophir City	1,160
Box Elder	West of Mendon	800
Rich	South of Randolph	160
Morgan		120
Total		125,980

"The public land surveys in Utah began in 1856, and no return was made by the surveyors of coal lands as such down to 1870, and there are vast tracts of unsurveyed land, so that these figures give no adequate idea of the extent of Utah's coals. There are indications and some surface coals here and there in the Great Basin proper; there are available beds on the Weber and Sanpitch, before they break out into the Basin, and at Cedar City in Iron County; but the great coal-field of Utah lies on the watershed of the Colorado, from where Green River enters the Territory on the north, along the southern slope of the Uintah and the eastern slope of the Wahsatch to Kanab and Pahria, 20,000 to 30,000 square miles. The formation may have been entirely carried off by erosion in considerable areas; but it was all originally underlain by coal, and the upper edge of it, lying along the eastern face of the Wahsatch, from Pleasant Valley down through Castle Valley to the Colorado, has not been eroded away.

"A railroad eastward from Salina, through the cañon, would strike midway the Castle Valley coal field, which is 20 or 30 miles wide by 150 miles long, and the coal cut into and exposed here and there by the cañons of the streams. A railroad from Springville on the Utah Southern through Spanish Fork Cañon will strike the head of Pleasant Valley in 52 miles which opens on the South into Castle Valley. The latter road is being constructed, and will reach Pleasant Valley this season. The former leaves the Utah Southern at Nephi, and reaches the Wales coal vein on the Sanpitch in 27 miles. This, it is promised, will also be constructed this season, the grade through the cañon having been nearly completed a few years ago. From Wales down the Sanpitch to the Sevier, and up the Sevier to Salina, is an easy route, and the cañon thence into Castle Valley is practicable for a railroad.

"Utah's supply of coal is absolutely inexhaustible, and it will not much longer be inaccessible. It is probably a lignite, like all the coals of the Rocky Mountain region, although it is claimed that the vein at Wales, which is four feet thick, eight miles long, and supposed to continue into the mountain six miles, is semi-bituminous. It dips about 15 degrees from the horizontal, and is opened to a depth of 1100 feet. There are twenty improved Belgian coke ovens here, and before the owners suspended work they made and marketed 100 car-loads of coke. They crush the coal and wash out the alien substances first. That the Utah coal should make good coke is what is chiefly wanted, since the territory has in six years imported for smelting purposes more than 46,000 tons of coke, at a cost of $1,300,000.

"In Pleasant Valley, the bed lies nearly horizontal, and is so thick that a train of box-cars might be backed into the opening to be loaded. Coke has been made here, and also at another locality eighteen miles to the southward; but not to any considerable amount. The foundrymen of Salt Lake give the Pleasant Valley coal a very decided preference over any other Utah or Wyoming coal for blacksmithing. There is little doubt that our largest coal-field has the thickest beds and furnishes the best coal.

"The beds about Coalville, on the Weber, three to six miles by rail from the Union Pacific Railroad at Echo, have been worked for twelve years, and have turned out perhaps 100,000 tons of coal. There are two veins, 300 feet apart, the upper one five feet thick, mixed with shale and slate; the lower one ten feet thick, clear coal, dipping from the horizon about 20 degrees, opened, off and on, in the face, for about seven miles, the deepest workings a thousand feet. The mountain bordering the Weber is cut down by Chalk and Grass creeks. The vein crops out one and one half miles above the mouth of Chalk Creek, half-way between it and Grass Creek, and about five miles up the latter. There are two mines worked to a depth of 1000 feet, and seven or eight from 200 to 400. Three or four of them have steam-power for working and pumping; and they are capable of producing 6000 tons a month. Some of the coal ranks high in quality as a house fuel; some of it comparatively low, but this is near the surface.

"Coal outcrops eleven miles above Coalville on the Weber, not worked for coal, but for a kind of soap clay, used in large quantity for washing sheep and wool, and which overlies the coal.

"The Iron County coal as well as the coal about Kanab and on the Pahria, is the same as that of Castle and Pleasant valleys, while that returned from Tooele, Box Elder, Rich, and Morgan counties has not been developed enough to determine its quantity or quality.

"It is perhaps too early to pronounce, finally, on the coking qualities of any Utah coal. Smelters who have used the Utah coke are divided in opinion as to its availability. Mr. J. Blodgett Britton, the Philadelphia iron-master, gives the following analysis of the coal and the coke made from it:

	Coal.	Coke.
Volatile matter	40·61	2·70
Fixed carbon	48·21	94·05
Ash	1·88	3·25

"Mr. Britton says the Western coals contain more water than the Pennsylvania bituminous coals. What they want, if any thing, is the bitumen, to cake or coke them. They have not the consistency to bear the weight of the furnace charge, crumble up too readily. After the coal railroads are done, a short time will tell. We may confidently expect to then have fuel fifty per cent cheaper than ever before, which will enable the smelters to handle ores of a lower grade than they can at present. For the last seven years, Utah has imported from Wyoming 50,000 tons of coal, costing, delivered, about half a million dollars per annum. With the railroad system extended to the Utah coal, the territory would be served with a better article, be saved all this outgo of cash, and consumers would get it at half the present cost."

STATISTICS OF COAL PRODUCTION

This is the only Report published that gives full and accurate returns of the production of our Anthracite mines.

Comparative statement for the week ending April 26th and years from January 1st:

TONS OF 2240 LBS.	1879.		1878.	
	Week.	Year.	Week.	Year.
Wyoming Region.				
D. & H. Canal Co.	53,571	831,978	23,452	651,777
D. L. & W. RR. Co.	62,658	978,999	22,128	529,264
Penn. Coal Co.	32,914	357,336	17,822	168,345
L. V. RR. Co.	18,289	274,439	9,339	204,321
P. & N. Y. RR. Co.	.....	4,770	572	7,523
C. RR. of N. J.	41,942	528,855	13,253	251,365
Penn. Canal Co.	.....	.....	3,212	32,448
	209,374	2,976,377	89,778	1,845,043
Lehigh Region.				
L. V. RR. Co.	74,188	800,703	30,433	626,150
C. RR. of N. J.	43,576	604,419	34,845	301,981
S. H. & W. B. RR.	.....	8,274	161	3,810
	117,764	1,413,396	65,439	931,941
Schuylkill Region.				
P. & R. RR. Co.	148,488	1,053,241	509	841,993
Shamokin & Lykens Val.	18,570	209,798	21,931	153,926
	167,058	2,163,039	22,440	995,919
Sullivan Region.				
Sul. & Erie RR. Co.	1,094	16,368	595	9,913
Total	495,290	6,569,180	178,252	3,782,816
Increase	317,038	2,786,364	.....	.....
Decrease	.....	.....	.....	.....

The above table does not include the amount of coal consumed and sold at the mines, which is about five per cent of the whole production.

The increase of shipments of Cumberland Coal over the Cumberland Branch, and Cumberland and Pennsylvania railroads, amounts to 71,467 tons, as compared with the corresponding period in 1878.

Belvidere Delaware Railroad Report for week ending April 26th:

	Week.	Year. 1879.	Year 1878.
Coal for shipment at Coal Port (Trenton)	.....	.....	170
Coal for shipment at South Amboy	11,997	135,899	154,136
Coal for distribution	7,692	103,444	52,604
Coal for Company's use	1,102	27,861	27,588

Perth Amboy Business:	Tons.
Received for the week	37,761
Shipped for the week	37,502
On hand April 26th	152,288

The receipts of coal at Providence, from January 1st to April 26th, were as follows:

	1879.	1878.
From Philadelphia	112,261	81,676
From New York	17,265	25,860
Soft coal	14,343	17,094
Total	143,869	124,030

The Production of Bituminous Coal for the week ending April 26th was as follows:

Tons of 2000 lbs., unless otherwise designated.

	Week. Tons.	Year. Tons.
Cumberland Region, Md.		
Tons of 2240 lb	37,800	380,121
Barclay Region, Pa.		
Barclay R. R., tons of 2,240 lbs	6,582	120,595
Broad Top Region, Pa.		
Huntingdon and Broad Top R. R.	3,288	44,404
*East Broad Top	1,391	19,117
Clearfield Region, Pa.		
*Snow Shoe	490	6,184
*Tyrone and Clearfield	29,346	375,001
Allegheny Region, Pa.		
*Pennsylvania R. R	5,074	50,582
Pittsburg Region, Pa.		
*West Penn R. R.	4,226	58,249
*Southwest Penn. R. R.	704	10,297
* Penn & Westmoreland gas coal, Pa. R. R.	19,260	239,420
*Pennsylvania R. R.	7,884	118,904

*For the week ending April 14th.

The Production of Coke for the week ending April 14th:

Tons of 2000 lbs.	Week	Year.
West Penn R. R.	1,155	27,985
Southwest Penn. R. R.	5,499	247,003
Penn. & Westmoreland Region, Pa. R. R.	1,557	33,187
Pittsburg, Penn. R. R.	2,820	43,612
Penn. R. R. (Allegheny Region)	371	14,857
Total	11,402	356,644

PRICES OF COAL.

New York.

Wholesale Prices of Anthracite Coal Delivery f. o. b. at Tide Water Shipping Ports, per ton of 2240 lbs.

	Lump.	Steamer.	Grate.	Egg.	Stove.	Chestnut.
WYOMING COAL.	$	$	$	$	$	$
§Lackawana, at Weehawken	2 20	2 20	2 20	2 25	2 55	2 50
‖Lackawanna at Rondout	2 05	2 05	2 05	2 10	2 40	2 35
*Pittston, at Newburg	2 15	2 15	2 15	2 20	2 35	2 35
Honey Brook Lehigh	3 00	.....	2 60	2 60	2 60	2 40
Wilkes-Barre at Pt. Johnson	2 15	2 15	2 25	2 30	2 60	2 40
Plymouth R. A. at P. John.	.....	.....	2 25	2 40	2 85	2 50
LEHIGH COAL.						
†Spring Mt. at P. Amboy	3 25	.....	2 85	2 85	2 85	2 75
Old Company L., at Eliz'p't	3 30	.....	2 75	2 75	2 75	2 60
Cross Creek, at Port John.	3 00	2 75	2 75	2 75	2 75	2 65
†Buck M. at Eliz. Pt. or S. A.	3 00	2 75	2 75	2 75	2 85	2 75
Fulton	3 30	.....	2 75	2 75	2 60	2 50
SCHUYLKILL COAL.						
‡*Alongside at N. Y. Harbor.*						
Hard White Ash	.....	.....	.....	.....	.....	.....
Free-Burning W. A.	.....	.....	.....	.....	.....	.....
Schuylkill Red Ash	.....	.....	.....	.....	.....	.....
Lorberry	.....	.....	.....	.....	.....	.....
Lykens Valley Vein	.....	.....	.....	.....	.....	.....

* Fifty cents per ton additional for delivery in New York, and fifteen cents per ton additional for delivery at Weehawken.

† These prices are given by Whitney, McCreary & Kemmerer.

‡ On coal delivered f. o. b., at shipping wharf at Williamsburg, the current rate of harbor freight will be allowed from above prices.

§ F. o. b. at Weehawken, N. J.

‖ For points on Hudson River and north, excepting New York City and harbor.

Wholesale Prices of Bituminous Coal.

DOMESTIC GAS COALS.

Per ton of 2240 lbs.	At the Shipping Ports.	Alongside at New York.
Westmoreland and Penn	$4.25	....
At Greenwich, Philadelphia	....	$5.50
At S. Amboy	5.00	5 50
Kanawha at Richmond	4.10	5.40
Youghiogheny, Waverly Co., at Balt	4.00	5.65
Murphy Run, West Va., at Baltimore	3.75	5.85
Fairmount, West Va., " "	3 75	5.70
Newburg Orrel, Md. " "	3.75	6.00
Cannelton & Peytona Cannel, West Va.	....	10.00
" Splint " at Richmond.	6.00	7.00
" Gas Coal at Richmond	4.00	5.65

MANUFACTURING AND STEAM COALS.

Cumberland at G'n & Alexandria.	2.75@2.90	4.35@4.50
Cumberland, at Baltimore	2.90@3.00	4.35@4.50
Cl'rfi'd "Eureka" and "Franklin."		
At mines	0.75	....
At Baltimore & Phila	3.25	4.50

FOREIGN GAS COALS.

	Sterling.	Am. cur'ncy
Newcastle, at Newcastle-on Tyne	7s.6d.	$2 50@ $3.50
Liv. House Orrel, at Liv.	25s.	13.00
Ince Hall Cannel "	35s.6d.	18.00
" Gas Cannel "	25s.6d.	10 00@ 10.50
Scotch Gas Cannel, at Glasgow, nominal	25s.	7 50
	Gold.	
Bl'k House, at Cow Bay, N.S.	$1.60	....
Caledonia, at Pt. Caledonia	1.50	$4.25
Glace Bay at Glace Bay	1.50	4.00
Lingan, at Lingan Bay	1.50	....
Intern'l Mines, at Sydney	1.60	....
Pictou, Vale Mines, at Pictou	2.00	4.70

Retail Prices.

Per ton of 2000 lbs,

Anthracite.

	G. & Egg.	Stove.	Chest.
Pittston coal delivered	$3.50	$3.75	$3.50
Lack. coal, delivered below 59th St.	3.25	3.50	3 25

Baltimore. May 1, 1879.

[Specially reported.]

Wholesale Prices per ton of 2240 lbs.

In cars at Depot N. C. R. R.

HARD WHITE ASH, FREE-BURNING WHITE ASH, SHAMOKIN, ETC.

	By cargoes afloat.	In cars at depot.
Lump and Steamboat	$2.60	$2.75
Broken	2.60	2.75
Egg	2.60	2.75
Stove	2.80	2.95
Chestnut	2.60	2.75

LYKENS VALLEY RED ASH.

Broken	3.10	3.25
Egg	3.10	3.25
Stove	3.30	3.45
Chestnut	2.85	3.00

From yard or wharf to trade, 50 cents additional.

George's Creek & Cumberland, f. o. b. at Locust Point for cargoes, $2.85@$3.

Buffalo. May 1, 1879.

[Specially reported by LEE & LOOMIS.]

Connellsville coke, gas, steam, and Cannel coals are offered, for the present, at the following prices per ton of 2000 lbs. :

	Lump.	Run of Mine.	Nut.	Slack.
Connellsville coke	$4.85	.....	.....	.....
Brookfield Coal	3.40	.....	.....	.....
Briar Hill	3.15	.....	.....	.....
" " No. 2	.....	.....	.....	.....
Youghiogheny	.....	.....	.....	.....
Monterey	.....	2.50	2.15	1.75
Catfish	.....	2.50	2.15	1.75
Stoneboro	.....	2.50	2.15	1.75
Sterling Cannel	4.50	.....	.....	.....
Cameron	.....	.....	.....	.....
Buffalo Coal Co	.....	.....	.....	.....

Terms, equal to cash in New York city funds.

BLOSSBURG COAL.

Per ton of 2000 lbs.

	To dealers.	To consumers.
By car or boat	$3.25	$3.25
In yard	3.40	3.60
In car	....	3.65
Delivered	.....	4 00

ANTHRACITE.

	To dealers.		Retail.
	On cars or boats.	In yard, screened.	Delivered.
Grate	$2.60	$4.25	$5.15
Egg	2.60	4.35	5.25
Stove	2.90	4.50	5.50
Chestnut	2.65	4.10	5.00
Lehigh Lump	....	....	....
Blossburg	3.25	3.40	4.00

[Specially reported by E. L. HEDSTROM.]

Prices at International and Suspension bridges for dealers in Canada and the West, per ton of 2000 lbs. :

Grate.	Egg.	Stove.	Chestnut.
$4.15	$4.25	$4.50	$4.00

Prices at Buffalo for city dealers :

Grate.	Egg.	Stove.	Chestnut.
$4.15	$4.25	$4.50	$4.00

Buffalo aetail prices, delivered :

Grate.	Egg.	Stove.	Chestnut.
$5.15	$5.25	$5.50	$5.00

[Specially reported by C. M. UNDERHILL.]

	DELIVERED AT				
	Elmira.	Ithaca.	Syracuse	Rochester.	Oswego
	Afloat.	Afloat.	Afloat.	Afloat.	F. O. B
Lump	.....	.....	.....	.....	.....
Grate	$3.75	$3.60	$3.60	$3.85	$4.05
Egg	3.85	3.70	3.70	3.95	4.15
Stove	3.95	3.95	3.95	4.20	4.40
Nut	3.85	3.85	3.60	3.85	3.90

	DELIVERED AT					
	Sodus Point.	Charlotte.	Erie.	Buffalo.		
	F.O.B.	F.O.B.	F. O. B.	Afloat.	F. O. B.	Ret. Del.
Lump	.....	.....	.....	.....	.....	.....
Grate	$4.05	$4.05	$4.55	$4.15	$4.55	$5.15
Egg	4.15	4.15	4.65	4.25	4.65	5.25
Stove	4.40	4.40	4.90	4.50	4.90	5.50
Nut	3.90	3.90	4.40	4.00	4.40	5.00

Chicago. May 1, 1879.

[Specially reported by Messrs. RENO & LITTLE.]

The following are the present prices of coal per ton of 2000 lbs. delivered:

Retail prices of coal delivered per ton of 2000 lbs

Lackawanna Stove	$6.50	Cannel	$6.00
" Chestnut	6.00	Wilm'gton & Ill	3.50
" Egg	6.00	Indiana Block	4.50
" Broken	6.00	Blossburg	5.50
Erie and Brier Hill	$5.50		

Cincinnati. April 28, 1879.

[Specially reported by the Consolidated Coal & Mining Co.]

There is but a small quantity of coal here now in first hands, and prices may be quoted as follows :

Per bushel of 72 lbs.

	Retail delivered.	Wholesale afloat.
Youghiogheny, second pool	10c.	7½c.
" fourth "	9c.	6½c.
Kanawha River	9@10c.	7c.
Camden	7@ 8c.	5c.

Anthracite prices are unsettled, with no regular circular prices. We quote per ton of 2000 lbs. :

	On cars.	Delivered.
Lack. & Wilkes-Barre	$4.25@$4.50	$5.00
Sugar Loaf Lehigh	5.25@ 5.50	6.00

Cleveland. April 30, 1879.

[Specially reported by F. A. BATES, Esq.]

Per ton of 2000 lbs. f.o.b. vessels.

WHOLESALE.

Brier Hill (Church Hill)	$3.20
" " No. 2 Grades	3 00
Massillon	2.50
" No. 2 Grade	2.35
Monday Creek	2.50
Straitsville Lower Vein	2.50
Hocking Valley	2.50
Tuscarawas Valley	2.20
Columbiana	2.20
Nut coal, various grades	1.70@2.00
Screenings " "	1.25@1.60
Youghiogheny gas coals	3 50

RETAIL TRADE.

Lump.

Brier Hill lump	$4.00
Massillon and Mineral Ridge	3.50
Monday Creek	3.25
Straitsville Lower Vein	3.25
Hocking lump	3.25
Rich Hill	3.00
Columbiana	2.75

Nut.

Massillon and Mineral Ridge	3.25
Monday Creek	3.00
Straitsville, Lower Vein	3.00
Hocking Valley	3.00
Columbiana	2.50

Hard Coal on Track.

	Wholesale.	Retail.
Steamboat	$5.40	$6.15
Grate	5.05	5.80
Egg	5.05	5.90
Chestnut	4.90	5.6

Hamilton, Ont. May 1, 1879.

[Specially reported by H BARNARD.]

Retail prices delivered per ton of 2000 lbs.

Pennsylvania Coal Co.'s Pittston Coal.

Grate	$4.50	Lehigh Lump	$6.25
Egg	4.50	Brier Hill	5.25
Stove	4.75	Blossburg	5.00
Chestnut	4.50		

25c. per ton less in cars at Great Western Railway depot.

Indianapolis. April 28, 1879.

[Specially reported by Messrs. COBB & BRANHAM.]

WHOLESALE BITUMINOUS.

On board cars, per ton of 2000 lbs.

White River	$2.50	Sand Creek	$2.50
Brazil Block	2.35	Raymond City	3.40
Highland Grate	1.85	Youghiogheny	3.70
Indiana Cannel	3.65	Blossburg (smithing)	4.50
Peytona	5.70		

Per car, 12 tons.

Block coal, nut	$16.00	Block Slack	$13.00
Highland, "	15.00		

RETAIL BITUMINOUS.

Delivered per bushel of 70 lbs.

White River	12c.	Block Nut, steam use	6c.
Brazil Block	12	" Slack, "	5
Highland Grate	10	Virginia Cannel	24
Block Nut, domestic use	11	Indiana Cannel	16
Highland Nut, " "	10	Youghiogheny	16
Sand Creek	12	Blossburg	24

GAS COKE.

Per bushel, measure containing 2888 cubic inches.

Retail, crushed	14c.	Wholesale, lump	10c.
" lump	12	" crushed	12

ANTHRACITE.

Per ton of 2000 lbs.

Wholesale on Cars.		*Retail delivered.*	
Wilkes-Barre, all sizes.	$5.50	Wilkes-Barre, all sizes.	$7.00
Lackawanna, "	5.50	Lackawanna, "	7.00
Lehigh "	6.75	Lehigh, "	8.00

Louisville. April 30, 1879.

[Specially reported by Messrs. BYRNE & SPEED.]

The price of river coal is firm, and supply limited. The retail demand is very dull. Our prices are as follows :

Wholesale per bushel of 72 lbs.

Pittsburg	7½c.	Kentucky, on cars	6½c.
Raymond City	7		

Retail.

Pittsburg, per load	$2.75	Kent'ky nut, per load	$1 75
Ray'nd City "	2.50	Cannel "	2.25
Pittsburg nut "	2.25	Anthracite, per ton	7.50
Kent'ky lump, per load	1.75	City-made Coke, p. bu.	8c.

Milwaukee. May 1, 1879.

Specially reported by Messrs. R. P. ELMORE & Co.]

Retail price per ton of 2000 lbs.

Lehigh prepared, chippings	@$7.00
" lump	@ 7.50
Lackawanna prepared (all sizes)	@ 6.50
Briar Hill	@ 5.50
Steam cokes	$3.75@ 4.75

Montreal. April 30, 1879.

[Specially reported by Messrs. ROBERT C. ADAMS & Co.]

Anthracite coal continues to be brought here by rail to supply present requirements. Large arrivals by canal will soon be due, and prices will speedily drop to the summer level. Prices for Scotch coal, to arrive, are hardening, as that to come by the early spring fleet has nearly all been sold. Stocks of all coals are lower than for seven years past. About 15,000 tons of Pictou coals have been sold to manufacturers at $3.75, *ex* vessel to arrive.

Bituminous, to arrive, per ton of 2240 lbs. ex ship.

Scotch Steam	$4.00	Cape Breton Steam	$3.30
Pictou	3.75	Newcastle Smith's	5.00

Present prices of Anthracite per ton of 2000 lbs. delivered.

Stove	$7.25	Chestnut	$7.00
Egg	7.50		

New Orleans. April 1, 1879.

[Specially reported by Messrs. C. A. MILTENBERGER & Co.

PITTSBURG COAL.

At wholesale (by boat-load)	30@c.35	per bbl. of 180 lbs.	
To steamboats	40@45c.	"	"
" manufactories	@40c.	"	"
" families	45@50c.	"	"

In hhds. (for shipment) .... $5.00 per hhd from 5 to 6 bbls.

Pittston, Pa. May 1, 1879.

Pennsylvania Coal Company's Coal in Yard.

Retail per ton of 2,000 lb.

Lump, Egg, and Stove	$2.25
Chestnut	2.00
Pea	1.00

Delivered, 50 cents per ton additional.

ANTHRACITE COAL

Per ton of 2000 lbs.

At wholesale	$6.00 to $7.00
To families etc	8 50 to 9.00

ST. BERNARD (KY.) COAL.

To steamboats	40c.	per bbl. of 180 lbs.	
" families	45c.	"	"
Virginia cannel at retail	85c.	"	"

Richmond. May 1, 1879.

[Specially reported by S. H. HAWES, Dealer in Coal.]

Per ton of 2240 lbs. f.o.b.

Kanawha Cannel	$9.00	New River Bituminous	$3.00
Coalburg Splint	4.00	Clover Hill Coal	2.50
Lewiston "	4.00	Norwood Gas and Kanawha Gas Coal	4.00
		Steam Coal	2.70

Sandusky. May 1, 1879.

[Specially reported by Messrs. BLACK & CLARKE. Agent, Con, Coal and Mining Company.]

Per ton of 2000 lbs.

ANTHRACITE.

	Grate.	Egg.	Stove.	Chest
Lehigh	$6.00	$6 00	$6.25	$5.75
Wilkes-Barre	4.80	4.90	5.15	4.65
Pittston	4.80	4.90	5.15	4.65

BITUMINOUS.

Massillon	$2.85	Straitsville	$2.00
Hocking Valley	2.50	Piedmont	1.54

Prices retailed delivered 50c.@75c. above car prices.

St. Louis. April 26, 1879.

[Specially reported by Messrs. LEWIS P. HARVEY & Co.]

The market at present is as follows :

Retail prices, delivered. Ton of 2000 lbs.

ANTHRACITE.

	Per ton.		Per ton.
Lackawanna	$7.00@	Lehigh Lump	$7.50@
Wilkes-Barre	7.00@	Connells. Coke.	6.00@
Schuylkill	7.50@	Blossburg	7.75@

BITUMINOUS.

Big Muddy	$3.50	Piedmont	$7.25
Indiana Block.	3.25	Pittsburg	6.75
Illinois Coals	2.25	Peytona	7.50
Blossburg	7.50	Lehigh Val. Ant.	7.50@8.00

Toledo. April 29, 1879.

[Specially reported by Messrs. GOSLINE & BARBOUR.]

Ton of 2000 lbs.

	Grate.	Egg.	Stove.	Chest.
Pittston	$5.05	$5.15	$5.40	$4.90
Wilkes-Barre	5.05	5.15	5.40	4.90
Lackawanna	5.05	5.15	5.40	4.90

Lehigh lump, $6.00.

Ton of 2000 lbs.

Straitsville lump	$2.60	Massillon nut	$2.40
" nut	2.25	Willow Bank lump	2.85
Shawnee lump	2.60	" nut	2.40
" nut	2.25	Cumberland	5.00
Hocking Valley lump	2.60	Blossburg	4.60
" nut	2.25	Morris Run	4.60
Massillon lump	2.85	Gas Coal	3.25

Retail prices, delivered in the city, are: Stove, $6.00; Grate, Egg, and Chestnut, $5.75.

PRICES OF IRON.

Baltimore. April 28, 1879.

[Specially reported by Messrs. R. C. HOFFMAN & Co.]

Below we quote present prices for pig-iron and blooms, with fair demand:

Balt. Char.	$26.00@$28.00	M. & White	$13.00@$14.00
Va. "	27.00@ 30.00	C'lC.B.Blooms	50.00@ 52.00
Anth.No.1	19.00@ 20.00	" " Billetts	52.00@ 55.00
" " 2	18.00@ 19.00	Refi'd Blooms	45.00@ 50.00
" " 3	17.00@ 18.00		

Buffalo. May 1, 1879.

[Specially reported by Messrs. PALEN & BURNS.]

	4 mos.
No. 1 Ex. Foundry	$17.75@$19.50
" " B 1	16.75@ 17.00
No. 2 " "	15.75@ 18.00
Mill	16.00@ 16.50
Charcoal iron (all numbers)	24.50@
Lake Superior ores	@
American Scotch A 1	19.00
" " No. 2	16.50
" " No. 3	
Best selected Connellsville coke, per net ton	4.75

Cincinnati. April 29, 1879.

[Specially reported by Messrs. TRABER & AUBERY, Commission Merchants for the sale of pig iron, blooms, ore, etc.]

Below please find closing quotations of our pig-iron market, viz.:

CHARCOAL.

H'n'g Rock	No. 1 Foundry & B 1	$21.00@	$21.50—4 mos.
"	No. 2 "	20.00@	20.50—4 mos.
"	Soft Silver Gray	@	—4 mos.
"	Mill	18.00@	19.00—4 mos.
Tennessee	No. 1 Foundry	20.00@	—4 mos.
"	No. 2 "	19.00@	—4 mos.
"	Mill	18.00@	—4 mos.

STONE COAL.

Ohio	No. 1 Foundry	$16.50@	17.50—4 mos.
"	No. 2 "	16.00@	16.50—4 mos.
"	No. 3 "	@	—4 mos.
"	No. 4 "	@	—4 mos.
"	Mill	16.00@	—4 mos.

COKE.

Ohio & W. Va.	No. 1 Foundry	19.00@	19.50—4 mos.
" "	No. 2 "	18.50@	—4 mos.
" "	Stove	@	—4 mos.
" "	Mill	17.00@	—4 mos.

CAR-WHEEL

H'n'g R., C. B	Hecla, Jefferson, Buckhorn, Chesapeake.	$30.00@	—4 mos.
Maryland, "	Cedar Point	31.00@	—4 mos.
Missouri, "	Maramec	28.00@	—4 mos.

BLOOMS.

Charcoal ..... $45.00@$50.00—cash.

SCRAP IRON.

Cast	40c. @ 45c.—cash
Wrought	62½c.@ $1.00—cash

Chattanooga. April 30, 1879.

Specially reported by J. F. JAMES, Dealer in Iron & Metals.]

Tenn., Ala. & Ga. Charcoal, No. 1 Foundry	$16.00@$17.00		
Tenn., Ala. & Ga. Charcoal, No. 2 Foundry	15.00@ 16.00		
Tenn., Ala. & Ga. Charcoal, Gray Forge	13.00@ 15.00		
Tenn., Ala. & Ga. Coke, No. Foundry	18.00@ 19.00		
Tenn., Ala. & Ga. Coke No 2 Foundry	16.00@ 17.00		
Tenn., Ala. & Ga. Coke, Gray Forge	14 00@ 15.00		
Charcoal or Coke, white and mottled	13.00@		
Old rails	$18 00@$19 00	Wr'ght scrap,	
Old car wh'ls.	16 00@ 17 00	No. 2	$11.00
Wr'ght scrap, No. 1	16 00	Cast scrap	10.00
		Muck bar	30.00@ 32.00

IRON ORES.

Red hematite or fossiliferous f. o. c. at mines, about 55 per cent metallic iron	$1.25
Brown hematite about 55 per cent metallic iron	1.75

Cleveland. May 1, 1879.

[Specially reported by Messrs. C. E. BINGHAM & Co.]

No. 1 Red Specular	$6.00	per ton cash.
No. 2 " "	5.00	" "
Red Hematite	4.25	" "
Lake Champlain ore	5.25	" "

FOUNDRY IRON.

No. 1 L. S. Charcoal	$22 00	Am. S., No. 1, Ch. Val	$20.00
No. 2 "	21 00	" " B—1, " "	18.00
No. 1 Anthracite	20 00	" " No. 2 " "	18.00
No. 2 "	19 00	No. 1, Massillon	19.00
No. 1 Bituminous	20 00	B—1, "	17.00
No. 2 "	18 00	No. 2, "	16.00

CAR-WHEEL AND MALLEABLE IRON.

No. 3, L. S. Charcoal	$23 00	Nos. 5 & 6, L. S. Char.	$23 00
No 4, " "	23 00		

BESSEMER IRON.

Nos. 1 & 2, L. S. Char $23.00

FORGE IRON.

No. 1, Gray	$18 00	White and Mottled	$16 00

Columbus, O. April 30, 1879.

[Specially reported by Messrs. KING, GILBERT & WARNER, Dealers in Pig Iron and Ores.]

FOUNDRY IRONS

No. 1 Hanging Rock Charcoal	$22.00@$22.50
No. 2 " "	21.00@ 21.50
No. 1 Hocking Valley soft and strong from pure limestone ores	18.25@ 18.75
No. 2 Hocking Valley soft and strong from pure limestone ores	17.25@ 17.75
No. 1 American Scotch	18.00@ 18.50
No. 1 Moxahala	18.00@ 18.50
No. 2 "	17.00@ 17.50
No. 1 Shawnee	18.00@ 18.50
No. 1 Silver Gray	16.50@ 17.00
No. 2 " "	15.50@ 16.50

MILL IRONS.

Gray neutral	16.00@ 16.50
Mottled and white neutral	15.00@ 15.50
Gray cold short	15.50@ 16.00
Mottled and white cold short	14.50@ 15.00

Louisville. April 29, 1879.

[Specially reported by Messrs. GEORGE H. HULL & Co.]

The usual time, four months, is allowed on the quotations below:

FOUNDRY IRONS.

	No. 1.	No. 2.
Hanging Rock Charcoal	$21 00@$22..00	$19.00@$20.00
Southern Charcoal	19.00@ 20.00	17.00@ 17.50
H'n'g Rock, Stc'l & Coke	19.50@ 20.00	18.50@ 19.00
Southern Stonecoal & Coke	19.00@ 19.50	18.00@ 18.50

"Amer. Scotch"... $18@$19 | Silver Gray... $17@$18.00

MILL IRONS.

No. 1 Charcoal, Cold-short & Neutral	$16.50@$18.00
No. 1 Stc'l & Coke, Cold-short & Neutral	17.00@ 17.50
No. 2 Stc'l & Coke, Cold-short & Neutral	16.50@ 17.00
No. 1 Missouri and Indiana, Red-short	20.00@ 21.00
White & Mottled, Cold-short & Neutral	15.50@ 16.00

CAR-WHEEL AND MALLEABLE IRONS.

Hanging Rock, Cold Blast	$30.00@$32.00
Alabama and Georgia, Cold Blast	28.00@ 30.00
Kentucky, Cold Blast	27.00@ 30.00

Milwaukee. April 29, 1879.

[Specially reported by Messrs. R. P. ELMORE & Co.]

Below please find present quotations of pig-iron in this market, namely:

CHARCOAL IRON.

No. 1 Lake Superior per gross ton	$22.00@$23.00—4 mos.
" 2 " " " "	21.00@ 22.00—4 mos.

ANTHRACITE IRON.

No. 1 E. & L. S. ores per gross ton	$21.00@$22.00—4 mos.
" 2 " " "	20.00@ 21.00—4 mos.

STONE COAL AND COKE.

Warner's Am Sc'th (Bk.Bd., p. ton	$22.00@$23.00—4 mos.
Hubbard "	22.00@ 23.00—4 mos.
Milton Silver Gray Hanging Rock	19.50@ 21.00—4 mos.
Sarah Coke " "	22.00@ 23.00—4 mos.

CAR-WHEEL AND MALLEABLE IRON.

Lake Superior ores gross tons ..... $23.00@24.00—4 mos
$1 per ton off for cash.

Pittsburg. May 1, 1879.

[Specially reported by A. H. CHILDS.]

	4 mos.		4 mos.
No. 1 F'dry	$19.00@$20.00	M. & White	$15.00@$16.00
No. 2 "	18.00@ 19.00	Hot Blast Ch.	20.00@ 23.00
Gray Forge	16.50@ 19.00	Cold Blast W.	35.00@ 37.00

Richmond, Va. April 29, 1879.

[Specially reported by ASA SNYDER, Esq.]

Amer. Scotch Pig Iron			$21.50@$22.50
Anthracite	" "	No. 1	19.00@ 20.00
"	" "	No. 2	18.50@ 19.00
"	" "	No. 3	17.00@ 18.00
"	"	Mottled	15.00@ 16.00
Coke	"	No. 1	19.00@ 20.00
"	"	No. 2	18.00@ 19.00
Va. Cold Blast Charcoal Pig Iron, cold short			19.00@ 22.00
" " " " "		neutral	27.00@ 28.00
" Warm " " "		cold short	18.00@ 20.00
" " " " "		mill	17 00@ 18 00
Old Rails			17.00@ 18.00
Wrought scrap No. 1			16.00@ 17.00
Cast scrap—Machinery			15.00@ 16.00
Richmond Refined Bar Iron			2.00@ 2.10
Horse-shoes			4.00@
Mule-shoes			5.00@
Old Dominion nails (standard size)			2.25 keg.

Freight by sail to New York, $1.60 for 2240 lbs.

St. Louis, April 28, 1879.

[Specially reported by CARD & HOFFER.]

We quote:

CHARCOAL HOT BLAST.

Missouri	$19.50@20.00
Southern	18.50@19.50
Hanging Rock	21.00@22.00

COKE AND COAL.

Missouri	None offering.
Southern, No. 1	18.50@19.50
Ohio River, No. 1	19.00@21.00
Jackson County, No. 1	19.00@20.00
Hocking Valley, No. 1	19.00@20.00
Anthracite	20.50@21.00

No. 2 and mill, $1 to $2 per ton less.

COLD BLAST.

Missouri	25.00@30.00
Southern	25.00@30.00
Ohio	30.00@32.00

IRON ORE.

Iron Mountain	5.50
Southwest	4.75
Ore for flux	6.50

OLD RAILS AND CAR-WHEELS.

Rails	20.00@20.50
Wheels	20.00

FREIGHTS.

Ocean Freights.

Ocean Freights on coal, iron, etc., per ton of 2000 lbs. to and from foreign and domestic ports, for four weeks ending April 23d, 1879, are given below.

DATE.	From	To	Cargo.	R'te
Apr. 4	Philadelphia	Havana	Coal	1.30
" 5	Baltimore	St. Thomas	Coal	2.75
" 8	Hoboken	Richmond	Rails	95
" 11	New York	Baltimore	Sulphur	90
" 11	New York	Philadelphia	†	1.05
" 11	Elizabethport	Richmond	Pig-iron	90
" 11	Norwalk	Richmond	‡	1.25
" 11	South Amboy	Havana	Coal	1.00
" 15	South Amboy	Salem	Pig-iron	1.45
" 15	South Amboy	Bangor	Pig-iron	1.60
" 15	Manhattanville	Richmond	Pig-iron	80
" 18	Cow Bay	St. Jago	Coal	3.50
" 18	New York	Richmond	Guano	1.00
" 18	New York	Morgan City	§	4.00
" 18	Charleston	Philadelphia	Old iron	2.75
" 19	Philadelphia	St. Thomas	Coal	2.50
" 22	Boston	San Francisco	Iron	‖
" 22	South Amboy	Havana	Coal	1.00
" 22	Baltimore	San Francisco	Coal	7.00
" 22	New York	Aspinwall	Coal	3.60
" 22	New York	Calcasieu Pass	RR. iron	4.00
" 22	Hoboken	So'th Newm'k't	Pig-iron	2.00
" 25	Baltimore	San Francisco	Coal	7.00
" 25	Baltimore	St. Thomas	Coal	2.75
" 25	Baltimore	Martinique	Coal	2.90
" 25	Baltimore	Havana	Coal	1.50
" 25	Georgetown, D. C.	Aspinwall	Coal	4.50
" 25	Baltimore	St. Jago	Coal	2.00
" 25	New York	Wilmington	*	1.75
" 25	Cow Bay	New York	Coal	1.50
" 25	New York	Gloucester	Salt	4½c
" 25	New York	City Point	RR. iron	1.20
" 25	New York	Richmond	*	1.25
" 25	New York	Richmond	Pig iron	90
" 25	New York	Richmond	‡	1,00
" 29	New York	Baltimore	Guano	1.50
" 29	New Haven	Richmond	‡	1.25

* Phosphate. † Peruvian guano. ‡ Old rails. § Machinery ‖ $8@$10.

Coastwise Freights.

Per ton of 2240 lbs.

Representing the latest actual charters to May 2d, 1879.

PORTS.	From Philadelphia.	From Baltimore.	From Elizabethport, Port Johnson, South Amboy, Hoboken and Weehawken.
Alexandria	87		
Baltimore	55@60		
Bangor			
Bath, Me		1.65	
Beverly	1.50		
Boston, Mass	1.55@1.70	1.65	
Bridgeport, Conn.	‡5	1.35	
Bristol, R. I.			
Brooklyn			
Cambridge, Mass.	1.60@1.50§		
Cambridgeport	1.55		
Charleston	1.25@1.30		
Charlestown	1.53§		
Chelsea			
Coosaw, S. C.	1.00		
Danversport	1.60†		
Derby			
East Cambridge	1.55§		
Easton, Md			
Fall River	1.20	1.35	
Flushing, N. Y.	85		
Fortress Monroe			
Frederickburg	1.00		
Galveston			
Georgetown, S.C.	95		
Gloucester	1.60@1.63		
Hackensack			
Hampton, Va.			
Hartford	1.50@1.60	1.35	
Jersey City			
Key West, Fla.			
Lynn	1.65†		
Milton	‖1.50@1.65		
Nantucket	1.55@1.65		
Newbern, N. C.			
New Bedford	1.30	1.35	
New Brunswick			
New Castle, Del.			
Newburyport		1.70	
New Haven	85@95†	1.35	
New London		1.35	
Newport	1.25		
New York	85	1.25	
Newark			
Norfolk, Va	65@70		
Norwich	1.25‡	1.45	
Norwalk, Conn		1.45	
Pawtucket	1.40		
Peekskill			
Pensacola	2.75		
Petersburg			
Pine Island			
Portland	1.40†@1.60§	1.65	
Portsmouth, Va.	65		
Portsmouth, N.H.		1.70	
Providence	1.35	1.35	
Quincy Point	1.55		
Richmond, V	75@80		
Rockland			
Saco			
Sag Harbor			
Salem, Mass.	1.55	1.65	
Savannah			
Somerset			
St. John, N. B.	1.15		
Stamford	85		
Thomaston	1.55		
Wareham		1.70	
Washington	85@90		
W'lmington, Del.	1.35		

* And discharging and towing. † And discharging. ‡ And towing. § 3 cents per bridge extra. ‖ Alongside.

METALS.

NEW YORK, Friday Evening, May 2, 1879.

The metal market has been exceedingly quiet in a large way, although there is a good consumption of metals going on.

Copper.—The business in this article is very limited, at 16c. There is a strong effort being made to force manufacturers into making contracts. From the "bull" side of the market one might think that the position of the producers was never stronger, while, in fact, it was never weaker. It is thought that some fairly important export sales have been made and not chronicled, and it is said that occasional small sales on the same account are now going on. There is, however, a much better feeling in the market.

From London, under date of April 18th, we have received the following :

"Holders of Chili bars having decided to accept a slight reduction on the prices lately ruling, we note sales of about 250 tons, consisting of good brands, at £57¼ and £57⅝, cash; favorite and best marks on same terms, at £57¾ and £58¼ respectively ; favorite marks at £58, to arrive. There is, however, no demand for what is known as G. O. B.'s, and some parcels on sale, with a short, fixed prompt, did not find takers, although sellers were disposed to make some concession off the nominal cash value of £57¼. We call prices as follows : Ordinary brands, £57@£57⅛ ; good marks, £57⅛@£57¼ ; favorite sorts, £57¼@£58 ; best, £58¼@ £59. Wallaroo is offered 'ex sale' by the dealers, at £64, sale terms ; Burra rules nominally £63@£63⅛. English meets with but little inquiry. Tough cake quoted £62@ £63 ; best select, £63@£64½; India sheets, £66@£67 ; other sheets, £67@£68. Yellow metal sheets rule at 5¼d. @5⅝d."

Tin.—Straits in London is quoted at £68 10s. ; in Singapore, at $21 ; and Penang, $20.70, with exchange at 3s. 8⅛d. Some report the shipments from the Straits during April as only 50 tons, and others as having been 75 tons. These very small shipments have had no influence on this market, owing to the large and constantly accumulating stocks. There has been a good consumptive demand, but no large sales. We quote Straits at 14½@14⅝c. ; L. & F., 14⅛@ 15c. ; and Refined, 14⅛c.@15c.

London advices of the 18th ult. are as follows :

"Tin remains in the same inactive state as yesterday ; a few small cash sales were made this afternoon, at 69¼s. and 69⅛s., closing with further sellers at 69¼s., and buyers at the minimum figure."

Tin Plates.—There has been a fair jobbing business. We quote, per box, as follows : Charcoal, bright, ⅛ X, Melyn grade, at $6.37½@$6.50 ; Allaway grade, $6.25 ; charcoal ternes, Allaway grade, $5.50 @$5.75 ; coke, bright, B. V. grade, $5.25, and coke roofing, 14 × 20, $5.

Messrs. Robert Crooks & Co., of Liverpool, under date of April 17th, say of tin and terne plates :

"Makers have in the mean time determined not to close another day a week, and consequently the market is weaker than when this was uncertain. Still sellers are fairly firm, and don't seem greedy for orders. This being, owing to the Easter break, rather an exceptional week, we must wait a few days to see the actual position of affairs."

Lead.—The sales since our last have been about 300 tons, most all of it in lots to dealers. The price early in the week was 2·95c. ; afterward it fell off to 2⅞c., with 100 tons in lots sold at 2·85c. The market closes dull, with 2·85@2⅞c. asked, and 2¾c. the best bid for fair lots. Stocks here are at least 10,000 tons, while shipments are very nearly the same as usual, there being a slight decline from Utah and Missouri.

The San Francisco *Commercial Herald* of April 24th says : "The City of Panama carried, *en route* to New York, 330,000 lbs. pig-lead ; the Belgic, for Hong Kong, carried 300,000 lbs."

Spelter and Zinc.—Spelter is dull at 4½c., and sheet zinc is the same, at 6⅛@6¼c.

Antimony is quoted at 11⅝@12c., according to brand.

Quicksilver.—The San Francisco *Commercial Herald* of April 24th says : "The Belgic for Hong Kong carried an unexpectedly large shipment, owing no doubt to the very low price of 36c., at which most of it was procured—say 4750 flasks. Other parties are of the opinion that this large shipment was for purposes of exchange, it being the most available article obtainable at the required moment.

"The quicksilver exports by sea from April 19th are as follows :

To China per Belgic, hence April 19th :

	Flasks.	Value.
Degener & Co	2,500	$68,875
Thomas Bell	1,000	28,305
Wing Chong Wo & Co	500	14,700
Wau Yune Lung Kee	300	10,200
Tuck Chong & Co	150	4,312
Hip Wo & Co	100	2,754
Tie Sang Tong	100	2,754
Quong Ying Kee & Co	100	2,753
Totals	4,750	$134,653
Previously since January 1st	13,239	405,643
Totals since January 1st, 1879	17,989	$540,296
Totals same period 1878	8,186	276,576
Increase in 1879	9,803	$263,720

Receipts for the week, 1104 flasks.

THE BULLION MARKET.

NEW YORK, Friday Evening, May 2, 1879.

The silver market has been very steady, abroad and here, the past week, with very little variation at the rates noted below. The market has a firm and rather promising look. The San Francisco quotation is 16 per cent discount.

DAILY RANGE OF SILVER IN LONDON AND NEW YORK, PER OZ.

DATE.	London Pence.	N. Y. Cents.	DATE.	London Pence.	N. Y. Cents.
April 26	50	109	April 30	50	109
April 28	50⅛	109¼	May 1	50†	109⅛
April 29	*50	108⅞	May 2	50 1-16	109⅛

* Weak. † Firm.

BULLION SHIPMENTS.

We give below a statement showing the latest bullion shipments in addition to those announced in our issue of April 26th :

April 15th	Highbridge	Nev	$4,700.00
" 16th	Martin White	"	6,250.00
" 16th	Northern Belle	"	3,257.00
" 18th	Paradise Valley	"	5,204.34
" 18th	Alexander	"	8,565.85
" 20th	Hillside	"	5,300.00
" 21st	Grand Prize	"	13,964.07
" 21st	Independence	"	5,700.00
" 23d	California	"	53,470.00
" 23d	Con. Virginia	"	46,973.00
" 24th	Ophir	"	1,677.14
" 16th	Bulwer	Cal	15,006.39
" 16th	Standard	"	17,182.58
" 16th	Bechtel	"	11,506.05
" 19th	Pioneer	Utah	1,696.60
" 21st	Stormont	"	3,982.67
" 22d	Ely Mill	"	1,900.00
" 23d	Christy	"	1,515.52
" 23d	Barbee & Walker	"	1,609.52
" 21st	Tip-Top	Ariz	12,200.00

The Klamath Quartz Mine, in Siskiyou County, Cal., produced $7500 in gold in March, and $6700 in February.

46,000 lbs. of Horn-Silver Base Bullion were received by Canbell, Cullen & Co. on the 23d and 26th of April.

San Francisco Treasure Shipments.—SAN FRANCISCO May 1.—Treasure shipments for China and Japan, per steamship City of Peking : Fine silver, $208,200 ; trade dollars, $11,066 ; Mexican dollars, $53,941 ; gold coins, $9130.

San Francisco Mint Coinage for April.—The coinage of the San Francisco Mint during April was : Double eagles, $2,540,000 ; standard dollars, $1,000,000. The Carson Mint was idle during the month.

The Bank of California has sold to the government 100,000 ounces of silver for delivery here at $1.10¼ per ounce.

Mint Coinage at Philadelphia during April.—PHILADELPHIA, May 1.—The coinage executed at the United States Mint during the month ending April 30th, 1879, is as follows :

Gold (half-eagles)	$50,800
Silver (dollars)	1,300,000
Base (cents)	13,680
Total	$1,364,480

New York Assay Office—Business for April.—The following is a statement of business at the United States Assay Office, at New York, for the month ending April 30th, 1879 :

Deposits of gold		$849,000
Deposits of silver—		
Miscellaneous	$73,000	
United States bullion, Colorado	66,000	
United States bullion, Lake Superior	137,000	
United States bullion, Montana	84,000	
United States bullion, New Mexico	24,000	
United States bullion, Utah	32,000	
		416,000
Total deposits		$1,265,000
Gold bars stamped	$121,873	
Silver bars stamped	493,237	
		615,111
Transmitted to Mint of the U. S. at Philadelphia, for coinage, gold		384,292

Exports of Gold and Silver from New York.

Week ending April 26th	$223,875
Corresponding week last year	1,371,408
Since January 1st this year	6,401,700
Corresponding period last year	6,759,474

Gold Interest Paid Out by the Treasury.

Week ending April 26th	$180,539
Corresponding week last year	83,638
Since January 1st this year	22,052,711
Corresponding period last year	23,060,684

The Bank of California.—The Gold Hill (Nev.) Agency of this institution has brought its business to a close. The coin, books, and every thing else appertaining to the institution, have been taken to Virginia and transferred to the California Bank Agency at that place, thus condensing the two into one. This is done not only as an economical measure, but to facilitate the business of the bank. It is reported that an agency of the Bank of California will be shortly established at Bodie. In this connection we note that the Bank of Gold Hill has filed articles of incorporation with the County Clerk of Storey County. Its business will be the usual style of banking and exchange, together with stock transactions, etc. Capital stock, $250,000.

San Francisco Ore Shipments.—The *Commercial Herald* reports the following shipments for the week ending the 24th of April : The City of Panama carried for New York via Panama, 2392 bars Richmond Company's lead (330,000 lbs.), valued at $10,500 ; 495 bars Union Base Bullion (40,000 lbs.), valued at $6000 ; 945 bars Melrose Base Bullion (104,803 lbs.), valued at $15,847. The Belgic, for Hong Kong, carried 300,000 lbs. pig-lead.

Shipments of the Hecla (Montana) Smelting Co.—The *Miner* says : "The Hecla Company's works have for the last few weeks been steadily turning out bullion. Since March 1st they have turned out about 160 tons of base bullion, valued at $500 per ton, and also about 200 tons of copper matte, valued at $250 per ton, making the total value of the month's run $130,000. This run was made from the big furnace only."

"The estimate is made by bullion brokers that of the entire issue of trade-dollars not over $6,000,000 remain in the United States.

Salt Lake Ore and Metal Market.

SALT LAKE CITY, Utah, May 2, 1879.

Argentiferous Lead (Base Bullion), $28 per ton for lead ; $1.12 per ounce for silver ; $20 per ounce for gold. The quotations for silver are based upon the silver in the lead of 80 to 120 ounces per ton of 2000 lbs.

The *Inter-Ocean's* correspondent, under date of April 21st, says : "The shipments of ore and bullion for the week ending April 19th were as follows : 4 cars bullion to Pittsburg, 3 cars bullion to Omaha, 8 cars bullion to Chicago, and 6 cars copper ore to Baltimore. Total bullion, 311,231 lbs. ; copper ore, 123,765 lbs. Grand total, 434,996 lbs.

"The last and only sale for the week was 5 cars Germania to the Omaha S. and R. Co., at $25 per ton for lead, $1.05½ for silver, and $18 per ounce for gold."

FINANCIAL.

Coal Stocks.

NEW YORK, Friday Evening, May 2, 1879.

The market both here and in Philadelphia has been feverish and excited during the week. The announcement of a sale of 110,000 tons of coal had the effect to weaken the market to a considerable extent, from which, however, it has recovered. Delaware, Lackawanna & Western ranged from 54⅜ to 51⅝, and closed to-night 52⅝ above the lowest of the day. New Jersey Central suffered the most noticeable decline. Opening on Saturday at 45½, it dropped to 42½ on the 30th, and closes ⅛ above the lowest price of the day. Delaware & Hudson Canal fluctuated but little. Pennsylvania Railroad has been the leading feature in the Philadelphia market, the decision in the suit of the Columbus, Chicago & Indiana Central having no effect except to strengthen the stock, which rose to 37¾ on the 29th. The London quotation being $1 higher, caused heavy transactions and a strong market, closing to-night at 36¾ ex dividend. The other stocks have been firm.

Coupons and interest on the bonds of the following companies will fall due during the present month :

Albany & Susquehanna RR. Co.—Sinking Fund and Equipment Bonds. Coupons paid by Delaware & Hudson Canal Co.

Cumberland & Pennsylvania RR. Co.—2d mortgage. Coupons paid at office of Consolidation Coal Co.

Delaware & Hudson Canal Co.—Regular interest ; loan of 1877 ; coupons.

Joliet Iron and Steel Co.—Coupons due.

Morris & Essex RR. Co.—1st mortgage coupons, paid by Del., Lack. & West. RR. Co.

Oswego & Syracuse RR. Co.—1st mortgage bonds of 1875. Interest paid by Del., Lack. & West. RR. Co.

Richmond Iron Mining Co.—Coupons due.

St. Louis & Iron Mountain RR. Co.—Coupons due.

Union Iron Co.—Coupons.

Utica, Chenango & Susquehanna Valley RR.—Coupons paid by Del., Lack. & West. RR. Co.

Wilmington Coal Mining and Manufacturing Co.—Coupons due.

Delaware & Raritan Canal Co.—Coupons paid by Pennsylvania RR Co.

Karthaus Coal and Lumber Co.—Coupons.

COAL STOCKS.

Quotations of New York stocks are based on the equivalent of $100. Philadelphia prices are quoted, so much per share.

NAME OF COMPANY.	Capital Stock.	SHARES. No.	SHARES. Par Val.	Last Dividend. Mo.	Last Dividend. Y.	Last Dividend. A't.	Rate per Ann.	Apr. 26. H.	Apr. 26. L.	Apr. 28. H.	Apr. 28. L.	Apr. 29. H.	Apr. 29. L.	Apr. 30. H.	Apr. 30. L.	May 1. H.	May 1. L.	May 2. H.	May 2. L.	SALES.
	$		$				Per c'nt													
Consol. Coal	10,250,000	102,500	100	Jan.	77	2½	....							20	20					
Del. & H. C.	20,000,000	200,000	100	Aug	76	4	8	46¾	46	46½	45⅞	46¼	45	46¾	45¾	46⅛	45¼	46¼	46	11,801
D., L. & W. RR	26,200,000	524,000	50	July	76	2½	5	54⅜	53¾	54⅜	52¾	53⅜	52⅛	52⅛	51⅝	52¼	51⅜	53⅜	52	137,952
Lehigh C. & N.	10,438,550	208,971	50	Nov	76	1½	5½	17⅜	17⅛	....	....	....	....	16⅞	16⅜	....	....	17⅛	17	2,035
Leh. V'y R. R.	27,228,855	540,858	50	Mch	79	1	4	36	35¾	35⅛	35⅛	36	36	36	36	36¼	35⅞	36¾	36⅞	2,009
Maryl'd Coal	4,400,000	44,000	100	Jan.	76	1½	1½	....	....	....	....	....	....	....	....	....	....	....	....	....
N. J. C. R. R.	20,600,000	206,000	100	Apr	76	2½	2½	45⅛	44⅛	45¼	44¼	44¾	44	44⅛	43½	44⅝	43	44⅝	44	44,130
Penn. Coal	5,000,000	100,000	50	May	78	3	6	....	....	....	....	....	....	....	....	....	....	....	....	....
Penn. R. R.	68,870,200	1,337,404	50	Nov	78	2	8	36¼	36⅛	36¾	36¼	37¾	36¾	37⅝	37¼	37¼	37¼	36⅞	36¾	67,475
Ph. & R. R. R.	34,278,175	685,563	50	Jan	76	+2¼	10	15¾	15½	15¾	15½	15¾	15¼	15⅛	15⅜	15⅜	15⅛	16¼	16	30,921

The Delaware and Hudson Canal Co. has paid in dividends to date $38,821,104, and the Philadelphia and Reading $43,012

Total Sales.....296,389.

Lehigh Coal and Navigation Co.—6 per cent loan due 1897; regular interest.
North Pennsylvania RR. Co.—2d-mortgage 7 per cent bonds; coupons.
Pennsylvania RR. Co.—United Co.'s Loan, 1889; coupons.
Schuylkill Navigation Co.—Boat and car loans and improvement bonds; coupons.
Shickshinney Coal and Iron Co.—Coupons due.
Union Canal Co.—1st mortgage; coupons.
West Branch & Susquehanna Coal Co.—2d mortgage; coupons due.
Camden & Amboy RR. Co.—Coupons paid by Pennsylvania RR. Co.
Catawissa RR. Co.—Chattel mortgage 10 per cent bonds; interest.
Philadelphia & Reading Coal and Iron Co.—7 per cent bonds, 1892-93: coupons.
Sunbury, Hazleton & Wilkes-Barre RR. Co.—5 per cent bonds; interest.

AUCTION SALES:
East Pennsylvania Iron Co.: 500 shares: par $50; $1 for lot.
Rising Fawn Iron Co.: $5000 1st mortgage bonds at 47½ per cent.
Cincinnati, Richmond & Fort Wayne RR. Co.: $5000 1st mortgage, 7 per cent guarantee gold bonds, due 1921, guaranteed by the Grand Rapids & Indiana RR., Cincinnati, Hamilton & Dayton RR., and the Pennsylvania RR Co., $1000 each, at 67⅞ per cent.
American Metalline Co.: 2000 shares, par $100, at $5 per share.

ANNUAL MEETINGS:
Lehigh Zinc Co., May 7th.
Susquehanna Canal Co., May 12th.
Elmira & Williamsport RR. Co.—The annual election for President and Managers of this company will take place May 5th.

Miscellaneous Stocks and Quotations.

Sales and quotations of the stocks and bonds dealt in here, at Philadelphia and Baltimore, for the week ending the 2d inst. are given in the following tables. The Philadelphia quotations will have a * affixed. The Baltimore quotations are indicated thus †.

STOCKS.	Par Value.	High'st	Lowest	Closing	Sales: Shares.
American Coal Co.	$25	.....	.....	.....	.....
St.L.,I.M.& S.R.Co..	100	21½	19⅞	20⅜	8,740
Spring Mt. Coal Co.	50	.....	.....	50	.....
*Cambria Iron Co..	50	.....	.....	65	300
*Penn. Salt Mf'g Co.	50	.....	.....	75	273
*Westm'land C. Co.	50	.....	.....	65½	.....
*Buck Mt. Coal Co..	50	.....	.....	38	.....
*Schuyl. Nav. Co...	50	.....	.....	.....	.....
†B.&O.RR.Co.1st pf	.....	.....	.....	106	.....
†B.&O.RR.Co.2d pf	100	.....	.....	99	.....
" " " com	90	.....	.....	90	5
†George's C'k C. Co	100	.....	.....	55	.....
†S. Clara M'g Co...	100	.....	.....	25	.....
†Atlantic Coal Co.	10	.....	.....	75	.....

BONDS.	Prince'l. When Due.	Int'est. When Due.	High'st.	Lowest	Amount.
D., L. & W., 7s, conv	1891	J. & D.	.....	.....	.....
" " " " 2d mtge.	1882	M. & S.	.....	.....	.....
N.J.C., 1st mtge. new	1890	F. & A.	116	.....	$32,000
" " " 1st mtge., con	1899	Q.	88½	87⅞	*421,000
" " " convt.....	1902	M. & N.	88¾	88¼	*67,000
Lehigh & W. B., con	1899	Q.	53¾	52¾	*41,000
Am. Dock & Imp. 7s	.....	J. & J.	.....	.....	.....
St.L.I.M.& S..1st mt	1892	F. & A.	.....	.....	.....
Ches. & O., 1st mtge	1899	M. & N.	.....	.....	.....
D & H C Co., 1stm.rg	1884	J. & J.	.....	.....	.....
" " " " "	1891	J. & J.	100	99⅞	35,000
" " " " m.loan cp	1894	A. & O.	100	99¼	7,006
" " " " " rg.	1894	A. & O.	99	.....	12,000
" " " " new mge.	.....	.....	.....	.....	.....
*L.V.R.,1stm.6s.cp.	1898	J. & D.	.....	.....	.....
" " " " rg.	1898	J. & D.	116	.....	1,000
" " " 2d m. 7s,rg.	1910	M. & S.	.....	.....	.....
" " " con.m.6s,rg	1823	J. & D.	104	.....	1,000
" " " " 6s cp.	1923	J. & D.	.....	103½	.....
*Pa.RR.,1st m.6s,cp	1880	J. & J.	.....	.....	.....
" " g. m., 6s, cp.	1910	J. & J.	.....	112	.....
" " " 6s,rg.	1910	A. & O.	.....	.....	.....
" " con.m.6s,rg.	1905	Q.	106	105	11,000
" " " 6s, cp.	1905	J. & D.	105½	105¼	12,000
" " new loan, 5s	.....	.....	113	.....	2,000
*P.& R. R., 1st m.6s, R. C. 43-44.....	1880	J. & J.	.....	103½	.....
P. & R. R., 1st m. 6s, R. C. 48-49.....	1880	J. & J.	.....	.....	.....
P.& R. R.,2d m.7s cp	1893	A. & O.	.....	.....	.....
" " " scrip....	1882	J. & J.	60	.....	12,800
" " " in.m.7s,cp	1896	J. & D.	60½	60	7,000
" " " c.m.7s,cp.	1911	J. & D.	108¼	106½	20,000
" " " " 7s. rg.	1911	J. & D.	107	.....	2,000
" " " cvt.7s,R.C	1893	J. & J.	62	58	17,320
" " C.& I.Co.,Deb 7s, R. C.....	1892	M. & S.	.....	.....	.....
& R.C.& I. Co., m. 7s, R. C.....	'92-3	various	60	.....	1,000
*L. Nav. Co.,6s,rg.m.	1884	J. & Q.	106	105	54,500
" " RR., rg. m.	1897	F. & Q.	107	106	900
" " cvt. co. G. R.	1894	M. & S.	.....	94	.....
" " " Gold R. C.	1897	J. & D.	97	96	15,000
" " con.m.7s,rg.	1911	J. & D.	75	.....	3,000
*P.& N.Y.C.,7s,R.C.	1890 / 1906	J. & D.	118½	.....	1,000
*Pa Canal, 6s. cp..	1910	J. & J.	70½	.....	1,000
*Schuyl.Nav.,1st m. 6s. rg.....	1897	M. & Q.	.....	92	.....
*Sus.Coal, 6s, rg...	1911	J. & J.	94	92	12,000
†Balt.&O. RR., 6s..	1880	J. & J.	102½	.....	500
" " " " 6s..	1885	A. & O.	106½	.....	500
Total transactions for the week..					$790,520

* Assented.

Gold and Silver Stocks.

NEW YORK, Friday Evening, May 2, 1879.

The low-priced stocks have come forward again, thereby making a very good showing for the total of shares sold. There has, however, been a good and well-distributed business done. The business in mining stocks is steadily growing, and promises to assume great importance before the end of the year.

The business in the San Francisco stocks continues to be quite important, and, furthermore, it is *bonâ fide*. We are informed that nearly all of the stock is going into the hands of outside parties, and is not hanging about the Exchange as some of the other stocks are. The sales have been as follows: Bodie, 575 shares, at $8¾@$10¼. A good strike is said to have been made in this mine. The price of the stock soon recovered after the assessment, which is said to have been made to enable the company to get suitable machinery and push developments. California, 1040 shares, at $7@$7⅛; Consolidated Virginia, 3245, at 7⅜@6⅞; Eureka, 10, at $15¼; Grand Prize, 290, at $3½@$3.45; Independence, 1960, at $2.75@$3; Leeds, 150, at 75@70c.; Consolidated Imperial, 700, at $1.60@$1.45; Consolidated Pacific, 200, at $2.50@$2.25: Leviathan, 1100, at 55@65c.; Navajo, 1400, at 35@30c.; Tip Top, 650, at 80c.; Tuscarora, 18,850, at 14@19c.

At the New York Stock Exchange, Standard and Sutro Tunnel have been the attractions. Standard has been dealt in to the extent of 9255 shares at $28¾@$30, ranging for several days past at $29¾@$30. The dealings in Sutro Tunnel have amounted to 16,214 shares, at $4¼@$4½. Homestake has been somewhat quiet, ranging from $32½@$33, with sales of 465 shares. Ontario records 375 shares, at $40@$39@$39½. Mariposa Preferred has ranged between $7⅝@$7⅞, with sales of 300 shares, and Common, between $7 and $7¼, with sales of 725 shares. The sales of Quicksilver Preferred have amounted to 300 shares, at $35⅞@$37⅝, and Common, 2193 shares, at $16@$14½.

There has been more activity, and a better distribution of business in the more important stocks at the Mining Exchange. We note sales as follows: Findley, 41,400 shares, at 53@64c.; Hukill, 1470, at $2.57@$2.85; Leadville, 11,700, at $3.15@$2.90; Moose, 8485, at $3.20@$4; New York & Colorado, 700, at $1.65@$1.45; Plumas, 1645, at $3.30@$3.65; Seaton, 200, at 75c.; Trio, 2700, at 59@62c.

Among the "fancies," Buckeye has been the leading attraction, the sales amounting to 143,000 shares, and the price advancing from 43c. to 74c. Now what the King of the Valley is going to do we do not know, but a gentleman who lately saw the mine thinks it will not surprise the world with any profits.

Bertha & Edith records sales of 84,400 shares, at 28@34c. Dahlonega has ranged between 23c. and 30c., with sales of 54,900 shares.

Gold Placer has shown more strength, advancing from 23c. to 29c., with sales of 43,590 shares. The dealings in American Flag amount to 4500 shares, at 23@20c.

Granville's aggregate of sales is 17,400 shares, at 14@25c. The dealings in Luzerne have amounted to 200 shares, at 32c.

The Caribou Consolidated Mining Company has been organized under the laws of this State, with a capital of $1,000,000, divided into 100,000 shares, of the par value of $10 each. Messrs. Brayton, Ives & Co. are receiving subscriptions for a limited amount of the stock. The Caribou mine is located at Caribou, Boulder County, Colo. The mine is down 778 feet, and is still sinking with power-drills. It is expected to start with dividends of $10,000 per month. Ex-Governor Curtin, of Pennsylvania, is President of the Company.

The subscription price of the Horn-Silver Mining Company has been advanced to $18.50 for the month of May. Messrs Franklin & Brown, the President and Vice-President of the company, will start to the mine to-morrow. Preparations are being made to start another stack, and it will begin smelting this month. The railroad will be opened to Chicken Creek, a distance of 32 miles from York, the present terminus, by the 1st of June.

Subscription books will be opened next week, at 54 Broad street, for the Green Mountain mine, which the owners have concluded to place before the New York public. This company has declared a monthly dividend of 6c. per share. The stock is selling at $2 per share by subscription for the first 20,000 shares.

The Ontario mine for the first 25 days of April produced $84,431.48. For the last week of that, it was $28,434.08. From the mill workings the results are very satisfactory, saving about 90 per cent of the assay value of the ore. The mine is looking well throughout the stopes. New shaft is now down 620 feet, and they are now preparing to cut station for 600-foot level. Average of ore worked is from 130 to 150 ounces.

Findley reports a clean-up, on the 26th ult., of 36 ounces at the steam-mill and 69 ounces at the water-mill. For three weeks run the result was 251 ounces.

The sale of the Dunderberg stock has gone on very satisfactorily, and it is thought that it will all be disposed of in a day or two. The officers of the company will probably be determined upon to-morrow.

The following dispatch has been received from the Plumas:

GREENVILLE, CAL., April 28, 1879,
To H. J. Rogers, Secretary, N. Y.—The ledge in lowest level is all right—opening well; prospects are good every thing looks well; shaft all right.
(signed,) IVAN PROWATTAIN.

The Pacific coast papers are raising a howl about Eastern investors purchasing the stocks of dividend-paying mines. If they do not invest in these, what shall they invest in? Our contemporaries make some good points; and we agree with them that there is such a thing as paying too much for a good mine. If a stock, however, is selling at a price that does not more than cover the net profit "in sight," according to the best authorities, as is the case with several dividend-paying mines now on the market, we can not see why these stocks are not better investments than the stocks of mines that have not a dollar in sight and are selling at from $500,000 to $1,000,000 or more simply on the hopes of finding something. The chances for fresh developments in a mine that is paying are just as good as in those that are not paying, and in the case of such mines as are spoken of above, any fresh discoveries would yield a profit on the investment, while in the case of a discovery in a non-dividend-paying mine, the principal of the investment might not be paid back. The fact of the thing is that the Pacific coast is loaded with such stocks as the Comstock and similar mines, and there is a strong move to educate the Eastern public up to an appreciation of them; after which, some life will be put into them and an effort will be made to put upon us a good many millions of dollars' worth of non-dividend mines, the majority of which will probably always be known as such. If our readers will invest in mines that have such ore reserves as to leave little if any risk, they will do much better than to invest in mines where there is no guarantee of profits.

The following appeared in the San Francisco *Stock Report* as an advertisement. We know nothing of the merits of the case, and leave our readers to judge for themselves:

"All persons are notified against purchasing stock of the Calabasas Land and Mining Company, based upon the following described mines, situated in the County of Pima and Territory of Arizona, and known by the records of said county as the Central San Xavier: The 1200 linear feet for which Duffield and Dickenson made application for patent. The eastern extension of the San Xavier mine, and 750 linear feet of the Knoxville mine, all lying contiguous and located upon the same vein or lode, and known as the San Xavier mines. Said property commencing 33 feet west of the old Deep Shaft, known for twenty years by the old settlers of Tucson, and running from thence in an easterly direction on said vein or lode 4840 linear feet. Said company holds present possession of 3640 linear feet of said mining property above described, which includes the mining property described in said Calabasas Land and Mining Co.'s circular of August 24th, 1878, as the San Xavier and Patterson mines, by virtue of a bond executed by O. W. Streeter to C. P. Sykes, which matured the 2d day of November, A.D. 1878, and no part of the consideration agreed upon in said bond having been paid, legal steps will be taken to recover immediate possession of the property above described. O. W. STREETER.
"SAN FRANCISCO, CAL., April 18, 1879."

Calling the attention of an Eastern officer to the above, he writes:

"The President of the company was out of town when the advertisement appeared in the *Stock Report*. A denial will appear in that paper as soon as he returns. I suppose it has already appeared."

The San Francisco *Stock Report*, after speaking of a growing demand from the East for California gold mines, says:

"Now we have a bit of advice to offer Eastern investors. This advice is gratuitous, but none the less valuable. We advise our Eastern friends to take time and have an expert of their own selection visit, inspect, and report on properties for which they may be negotiating. There are experts in this city to-day whose judgment on our gold mines is almost infallible. Some of these gentlemen, like John F. Boyd, of the Standard and Bulwer, have amassed fortunes and no longer make inspections for other people. But of really competent and experienced experts we have a number. It is an easy matter to find a reliable expert, and to purchase a mine without having a special report from a competent expert is the height of foolishness. It has come to our knowledge

GENERAL MINING STOCKS.

Dividend Paying Mines.

NAME AND LOCATION OF COMPANY.		Feet on Vein.	Capital Stock.	SHARES. No.	Par Val	ASSESSMENTS. Total levied to date.	Date and amount per share of last.	DIVIDENDS. Total paid to date.	Last Dividend.	Rate p. An	HIGHEST AND LOWEST PRICES PER SHARE IN CURRENCY AT WHICH SALES WERE MADE. Apr. 26. H.	L.	Apr. 28. H.	L.	Apr. 29. H.	L.	Apr. 30. H.	L.	May 1. H.	L.	May 2. H.	L.	SALES.
Alps	Nev.	800		30,000		204,000	Aug. 1878 $1 00	37,500	Apr. 1876 $0 05		..	..	....	....	....	....	....	....	....	....	....	....	.....
Belcher, G. S.	Nev.	1,040	10,400,000	104,000	100	1,493,200	Feb. 1879 1 00	15,397,200	Apr. 1876 1 00		....	....	....	....	....	....	....	....	....	....	....	....	.....
Bobtail, G.	Col.	2,500	1,136,630	227,326	5	*		90,930	Nov. 1878 15		....	....	....	....	....	....	....	....	....	....	....	....	.....
Bobtail Tunnel, G.	Col.	.....	100,000	20,000	5	52,000	July 1873 0 30	56,000	Dec. 1879 40		....	....	....	....	....	....	....	....	....	....	....	....	.....
Bodie, G.	Cal.	.....	5,000,000	50,000	100	25,000	Feb. 1878 0 50	800,000	Jan. 1879 1 00	....	93/8	8¾	10⅛	9½	....	....	10	9	....	....	10¼	10	575
California, G. S.	Nev.	600	54,000,000	540,000	100	.....	.....	30,240,000	Jan. 1879 1 00	....	7¼	....	7¼	7	7⅜	7¼	7¼	....	7⅛	....	7¼	7	1,049
Calumet & Hecla, C.	Mch	.....	2,000,000	80,000	25	1,200,000	.....	13,850,000	Feb. 1879 5 00	....	177	176	....	....	178	177	177½	....	....	....	....	....	76
Central, C.	Mch	.....	500,000	20,000	25	100,000	June 1862 0 65	1,260,000	Feb. 1877 5 00	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Chollar, G. S.	Nev.	700	11,100,000	112,000	100	1,750,000	Sept. 1878 5 00	3,040,000	Feb. 1872 1 00	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Copper Falls, C.	Mch	.....	1,000,000	20,000	50	535,000	May. 1876	100,000	Nov. 1871 1 00	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Cons. Virginia, G. S.	Nev.	710	54,000,000	540,000	100	474,600	June 1873 3 00	40,770,000	Apr. 1879 50	....	7⅜	7	7⅛	6⅞	7¼	7	7⅛	.....	7⅛	6⅞	7⅛	6⅞	3,245
Confidence, G. S.	Nev.	130	2,496,000	24,960	100	256,320	Apr. 1878 0 50	78,000	May. 1865 8⅓	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Cons. Her. & Roe	Col.	16,500	1,000,000	100,000	10	*					....	....	....	....	....	....	....	....	....	....	....	....	.....
Crown Point, G. S.	Nev.	600	10,000,000	100,000	100	1,973,370	Dec.. 1878 1 00	11,588,000	Jan.. 1875 2 00	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Daney	Nev.	2,000	.....	108,000	.....	91,800	Nov. 1878 0 20	56,000	July 1863 ...	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Eureka Cons., G. S. L.	Nev.	.....	5,000,000	50,000	100	100,000	May. 1876 1 00	3,600,000	Feb.. 1879 2 00	....	15¼	....	....	....	....	....	....	....	....	....	....	....	10
Eureka G. Mg., G.	Cal.	1,680	2,000,000	20,000	100	.....	.....	2,149,000	Apr. 1878 0 25	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Findley, G.	Geo.	.....	200,000	200,000	1	.....	.....	6,000	Apr . 1879	....	54c	53c	55c	53	56c	54c	61c	57c	62c	59c	64c	60c	41409
Franklin, C.	Mch	.....	500,000	20,000	25	360,000	June 1876 5 00	585,000	Nov. 1871 1 00	....	5¾	5½	8	.....	8⅝	8¼	.....	....	....	....	....	....	205
Gila	Ariz	.....	.....	100,000	.....	70,000	Jan. 1879 0 25	50,000	Aug. 1875 0 25	....	..	....	....	....	....	....	....	....	....	....	....	....	.....
Gould &Curry, G. S.	Nev.	612	10,800,000	108,000	100	2,936,000	Mar. 1879 1 00	3,826,800	Oct. 1870 10 00	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Grand Prize	Nev.	1,500	.....	100,000	.....	100,000	July. 1878 1 00	400,000	Feb. 1878 1 00	....	....	....	3½	....	3¼	....	3⅛	3.45	....	....	3½	....	290
Hale & Norcross, G. S.	Nev.	400	11,200,000	112,000	100	3,082,000	Mar. 1879 1 00	1,598,000	Apr. 1871 5 00	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Homestake, G.	Dak	.....	10,000,000	100,000	100	.....	.....	120,000	Feb.. 1879 20	....	....	....	....	....	33	32⅛	32¾	32⅛	32⅝	....	22⅛	32¾	465
Hukill, G. S.	Col.	3,288	1,000,000	100,000	10	*			Dec. 1878 0 10	....	....	....	....	....	2.57	....	2.75	2.60	2.85	....	2.85	2.70	1,470
Independence	Nev.	1,500	.....	100,000	.....	75,000	Feb.. 1878 15	150,000	Nov. 1878 25	....	2.85	2.75	2.90	2.80	3	2.90	3	2.90	....	....	2.90	2.85	1,960
Kentuck, G. S.	Nev.	95	3,000,000	30,000	100	300,000	Aug. 1878 1 00	1,252,000	Mar. 1870 5 00	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
K. K. Cons.	Nev.	.....	.....	50,000	.....	300,000	Jan.. 1879 1 00	50,000	Sept. 1873 0 25	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Leadville	Col.	.....	2,000,000	.....	.....	*	.....	20,000	....	....	3.10	3	3.10	2.95	3.15	2.90	3.10	2.95	3.10	2.90	3	2.90	11700
Leeds	Utb.	3,000	.....	60,000	.....	.....	.....	78,000	Oct.. 1878 0 15	....	....	....	75c	70c	....	....	....	....	....	....	....	....	150
Leopard, L. G. S.	Nev.	1,500	5,000,000	50,000	100	225,000	Mar . 1879 50	162,500	Dec. 1876 0 50	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Manhattan	Nev.	.....	.....	50,000	.....	50,000	Oct.. 1878 1 00	400,000	Feb. 1877 1 00	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Merrimac, S.	Mas.	1,500	500,000	100,000	5	*	June	120,000	Mar.	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Minesota, C.	Mch.	.....	1,000,000	20,000	50	436,000	..... 1869 1 00	1,820,000	Mar. 1876 0 50	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Modoc	Cal.	4,000	.....	100,000	.....	460,000	Feb.. 1879 0 50	50,000	Dec. 1876 0 50	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Moose	Col.	39,000	2,000,000	200,000	10	*		550,000	Mar. 1878 0 25	....	3.50	3.20	3.70	3.50	3.80	3.55	3.75	3.65	3.70	3.65	4	3.60	8,485
National, C.	Mch.	.....	500,000	20,000	25	195,000	Oct.. 1875 1 00	360,000	Oct. 1873 1 00	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
N. Y. & Colorado, G.	Col.	.....	1,000,000	50,000	20	*		20,000	Mar. 1877 0 20	....	1.60	.....	1.65	.....	1.65	.....	1.50	.....	.....	.....	1.45	.....	700
Northern Belle, S.	Nev.	1,000	5,000,000	50,000	100	.....	.....	1,425,000	Feb. 1878 1 00	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Ontario	Uth.	3,000	10,000,000	100,000	100	.....	.....	2,100,000	Apr. 1879 50	....	.....	.....	.....	.....	40	39	.....	.....	39½	.....	39½	.....	375
Ophir, G. S.	Nev.	675	10,080,000	100,800	100	3,436,800	Nov. 1878 1 00	1,394,400	Mar. 1864 4 00	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Pewable, C.	Mch.	.....	500,000	20,000	25	185,000	June 1868 3 00	460,000	July 1873 1 00	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Potosi, G. S	Nev	700	11,000,000	112,000	100	.....	.....	½	.....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Phœnix, C.	Mch.	.....	1,000,000	20,000	50	817,500	Sept. 1870 3 00	10,000	Dec. 1876 1 00	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Plumas	Cal.	.....	1,000,000	100,000	10	.....	.....	130,000	Apr.. 1879 8	....	3.35	3.30	.....	.....	3.50	.....	3.60	.....	3.65	3.55	3.60	3.50	1,645
Quincy, C.	Mch.	.....	200,000	20,000	10	.....	.....	2,230,000	Feb. 1878 5 00	....	11½	.....	13	.....	13	12½	.....	.....	12	.....	.....	.....	490
Raymond & Ely, G. S.	Nev.	5,000	3,000,000	30,000	100	730,000	Jan.. 1879 1 00	3,075,000	Sept. 1873 3 00	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Ridge, C.	Mch.	.....	500,000	20,000	25	200,000	.....	90,000	Feb. 1875 1 00	....	....	....	1¾	1½	1½	.....	1⅜	.....	.....	.....	.....	.....	600
Rye Patch	Nev.	1,600	.....	30,000	.....	157,500	Dec.. 1878 1 00	105,000	Dec. 1877 0 25	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
St. Joseph, L.	Mo.	2,000 acs.	1,000,000	100,000	10	.....	.....	250,000	.....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Savage, G. S.	Nev.	800	11,200,000	112,000	100	4,196,500	Feb. 1879 1 00	4,460,000	June 1869 3 00	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Seaton, G. S.	Col.	1,700	500,000	50,000	10	*		.....	May 1877 0 10	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Sierra Nevada, G. S.	Nev.	3,650	10,000,000	100,000	100	2,550,000	Apr.. 1879 2 00	102,000	Jan. 1871 1 00	....	....	....	75c	....	....	....	....	....	....	....	....	....	200
Silver Islet	Mch	.....	.....	.....	.....	.....	.....	.....	.....	....	57⅜	.....	57	.....	....	....	57	.....	57	.....	....	....	84
Silver King	Ariz	1,500	10,000,000	100,000	100	.....	.....	450,000	Nov. 1878 0 50	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Standard	Cal.	.....	10,000,000	100,000	100	50,000	July 1878 1 00	950,000	Mar. 1879 0 50	....	29⅝	28¾	29⅞	29½	30	29⅝	30	29¾	30	29¾	29⅞	29¾	9,255
Yellow Jacket, G. S.	Nev.	1,200	12,000,000	120,000	100	4,038,000	Apr.. 1879 1 00	2,184,000	Aug. 1871 2 50	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
McClinton	Cal.	1,000	.....	60,000	...	45,000	Dec.. 1878 0 25	.....	.....	....	....	....	....	....	....	....	....	....	....	....	....	....	.....

Non-Dividend Mines.

Allouez, C.	Mch.	.....	1,000,000	20,000	50	940,000	May 1876 5 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Alpha, G. S.	Nev.	306	3,000,000	30,000	100	240,000	Mar . 1878 1 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Alta	Nev.	600	.....	108,000	.....	1,101,000	Feb. 1879 1 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Am. Flag, G.	Col.	5,300	600,000	60,000	10	*		.....	.....	.....	.....	.....	.....	.....	22c	21c	23c	21c	23c	.....	21c	20c	4,800
Andes	Nev.	2,000	.....	100,000	.....	355,000	Oct. 1878 0 25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Baltimore Cons.	Nev.	1,050	.....	84,000	....	1,015,000	Apr. 1878 0 50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Benton	Nev.	600	.....	108,000	....	91,800	Dec. 1878 0 50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bechtel	Cal.	.....	.....	60,000	.....	90,000	Apr.. 1879 0 25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bertha & Edith. G.	Vir.	645 acs.	500,000	500,000	10	*		.....	.....	.....	28c	.....	29c	27c	32c	29c	34c	29c	32c	29c	31c	29c	84,400
Best & Belcher, G. S.	Nev.	545	10,080,000	100,800	100	639,390	Apr.. 1879 1 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Boyle	Nev.	600	.....	108,000	.....	16,240	Aug. 1878 0 15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Buckeye	Col.	.....	2,000,000	400,000	5	*		.....	.....	.....	60c	43c	62c	57c	65c	61c	69c	63c	67c	62c	74c	66c	143,000
Bullion, G. S.	Nev.	943⅛	10,000,000	100,000	100	3,002,000	Dec. 1878 1 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Caledonia, G. S.	Nev.	2,188	10,000,000	100,000	100	1,640,000	Apr. 1879 0 50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cashier	Col.	.....	500,000	250,000	2	*		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Challenge	Nev.	90	.....	50,000	.....	10,000	Nov. 1878 0 20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cleveland, G	Col.	3,715	250,000	25,000	10	*		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cons. Imperial, G. S.	Nev.	468	50,000,000	500,000	100	875,000	Feb.. 1879 0 20	.....	.....	.....	1.60	.....	.....	.....	.....	.....	1.55	.....	.....	.....	1.50	1.45	700
Con. N. Slope & E. T.C.	Col.	15,000	500,000	10,000	50	*		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Con. Pacific	Cal.	1,400	.....	60,000	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.50	2.25	200
Dahlonega	Ga.	.....	250,000	250,000	1	*		.....	.....	.....	24c	....	24c	23c	.....	26c	24c	.....	26c	25c	30c	25c	54,900
Dana, C.	Mch.	.....	500,000	20,000	25	68,000	Jan.. 1863 0 50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dawson, S.	Ont.	.....	1,200,000	60,000	20	.....	..... 1878 ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Day	Nev.	1,500	.....	100,000	....	70,000	Feb.. 1879 0 15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dayton	Nev	1,600	.....	100,000	.....	750,000	Apr. 1878 0 25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
De Frees	Ariz	1,500	.....	100,000	....	115,000	Oct.. 1878 15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Duncan, S.	Ont.	.....	1,200,000	60,000	20	75,000	July 1876 41⅜	.....	.....	.....	.....	.....	.....	.....	4¾	4½	4⅞	.....	†	4⅞	.....	.....	925
Exchequer, G. S.	Nev.	400	10,000,000	100,000	100	486,000	Feb.. 1879 1 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gold Placer, G.	Col.	.....	5,000,000	200,000	25	.....	.....	.....	.....	.....	23c	.....	27c	25c	27c	26c	28c	26c	29c	25c	28c	27c	43,500
Granville, G.	N. C.	357 acs.	1,000,000	100,000	10	*		.....	.....	.....	.....	.....	.....	.....	.....	.....	14c	.....	18c	15c	25c	19c	17,400
Humboldt, C.	Mch.	.....	500,000	20,000	25	100,000	Sept 1878 0 15	.....	.....	.....	.....	.....	.....	.....	30c	.....	.....	.....	.....	.....	.....	.....	.....
Hussey	Nev.	4,500	.....	100,000	....	110,000	Jan.. 1879 0 15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
International, S.	Ont.	.....	1,200,000	60,000	20	.....	.....	.....	.....	.....	55c	53½	55c	.....	.....	.....	60c	.....	.....	.....	.....	.....	2,100
Julia, G. S.	Nev.	3,000	11,000,000	110,000	100	872,500	Jan . 1879 1 25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Justice, G. S.	Nev.	2,100	10,500,000	105,000	100	2,763,500	Jan.. 1879 1 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
King's Mountain, G.	N. C.	.....	1,200,000	120,000	10	*		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kossuth	Nev.	2,700	.....	108,000	....	421,200	Aug. 1877 0 15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lacrosse	Col.	3,900	1,000,000	100,000	10	*		.....	.....	.....	27c	....	28c	26c	27c	....	28c	.....	26c	....	27c	.....	6,900
Leviathan	Nev.	2,000	.....	100,000	.....	265,000	Mar. 1879 25	.....	.....	.....	55c	.....	55c	.....	55c	.....	.....	.....	.....	.....	65c	.....	1,100
Luzerne	Col.	4,200	5,000,000	500,000	10	*		.....	.....	.....	.....	.....	.....	.....	.....	.....	32c	.....	.....	.....	.....	.....	200
Madison, C.	Mch.	.....	500,000	20,000	25	123,000	Sept 1876 0 10	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mariposa preferred.	Cal.	44,387	5,000,000	50,000	100	1,425,000	June 1877 1 00	.....	.....	.....	.....	.....	7⅞	.....	.....	.....	7⅞	.....	7⅞	7¾	7⅞	.....	300
" common	Cal.	acres.	10,000,000	100,000	100	1,425,000	June 1878 1 00	.....	.....	.....	7	.....	.....	.....	.....	.....	7⅞	.....	7¼	.....	7⅞	.....	725
McCracken	Ariz	4,500	.....	100,000	.....	100,000	Oct . 1878 0 50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Martin White	Nev.	.....	.....	100,000	....	650,000	Dec. 1878 1 50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mesnard, C.	Mch.	.....	500,000	20,000	25	160,000	Apr. 1876 0 50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mexican, G. S.	Nev.	600	10,080,000	100,800	100	217,400	May. 1878 0 50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Minnietta Belle	Cal.	1,500	.....	100,000	....	75,000	Apr. 1878 0 50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mt. Bross Tunnel	Col.	8,600	2,000,000	200,000	10	*	1878	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Navajo	Nev.	1,500	.....	100,000	.....	145,000	Feb. 1879 0 20	.....	.....	.....	32c	30c	.....	.....	.....	.....	35c	.....	.....	.....	30c	.....	1,400
New York	Nev.	1,000	.....	100,000	....	800,000	Feb. 1879 0 40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Occidental	Nev.	1,700	.....	40,000	.....	72,500	Feb. 1877 0 25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Orig. Keystone	Nev.	1,500	1,000,000	100,000	10	50,000	Oct. 1878 0 50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Overman, G. S.	Nev.	1,200	3,840,000	38,400	100	3,404,280	Jan.. 1879 3 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Osceola, C.	Mch.	.....	1,000,000	40,000	25	2,567,880	Nov. 1877 3 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Petherick, C.	Mch.	.....	500,000	20,000	100	165,533	Mar. 1876 0 50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pleasant View, G.	Col.	1,200	200,000	20,000	10	*		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Quicksilver preferred.	Cal.	8,500	4,291,300	42,913	100	*		.....	.....	.....	35⅞	.....	.....	.....	.....	.....	.....	.....	37⅛	.....	37⅛	.....	300
" common.	Cal.	acres.	5,708,700	57,087	100	*		.....	.....	.....	16	15	15	14½	15½	15	.....	.....	14½	.....	14½	.....	2,193
Rockland, C.	Mch	.....	500,000	20,000	25	495,000	Jan. 1874 1 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Seg. Belcher, G. S.	Nev.	130	640,000	6,400	100	214,800	Apr. 1876 5 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Silver Hill, G. S.	Nev.	5,400	10,800,000	108,000	100	1,404,000	Apr.. 1879 0 50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Silver Prize	Nev.	1,500	.....	100,000	.....	65,000	Feb. 1879 0 25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Star, C.	Mch.	.....	500,000	20,000	25	265,000	Mar. 1876 0 50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Superior, C.	Mch.	.....	500,000	20,000	25	310,000	Mar. 1878 0 25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sutro Tunnel	Nev.	.....	20,000,000	2,000,000	10	.....	..... 0 50	.....	.....	.....	4½	4⅜	4½	4⅜	4⅜	4¼	4⅜	.....	.....	.....	4½	4¼	16,214
Tiptop	Ariz	.....	.....	100,000	....	120,000	July 1878	.....	.....	.....	.....	.....	80c	.....	80c	.....	80c	.....	.....	.....	.....	.....	650
Tioga	Cal.	1,500	.....	100,000	....	60,000	Dec. 1878 0 20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Trio	Col.	1,250	150,000	150,000	1	.....	.....	.....	.....	.....	60c	.....	60c	.....	.....	.....	60c	59c	61c	60c	62c	60c	2,700
Trojan	Nev.	1,500	.....	100,000	....	265,000	Apr. 1879 0 25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tuscarora	Nev.	.....	.....	100,000	....	25,000	Mar. 1879 0 05	.....	.....	.....	15c	.....	16c	14c	16c	15c	19c	18c	18c	17c	18c	15c	18,850
Union Cons. G. S.	Nev.	.....	10,000,000	100,000	100	460,000	Apr. 1879 1 50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Utah	Nev.	1,000	.....	20,000	....	830,000	Apr. 1879 2 50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ward	Nev	1,200	.....	110,000	....	99,000	Jan. 1879 0 30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wells Fargo	Nev.	1,500	.....	108,000	....	216,000	Sept. 1878 0 50

through private letters from New York, that in several instances, of late, Californians offering mines for sale have endeavored to dissuade intending purchasers from sending experts to report on mines, alleging that the bonds would expire before the mines could be reached. Give such properties and such negotiators a wide berth. Any mine that will not stand the crucial test of examination is not worth having at any price."

We take the following from the Leadville correspondence of the Denver *Tribune*, of April 22d. It is in part supplemental to recent remarks by us:

"A pernicious practice is obtaining, which, if not checked at once, will tend to do more harm to the future of Leadville than all that has been said or done since the excitement first set in. The plan to which I allude works something in this way: A half-dozen or more mining claims are pooled together, under some high-sounding name, stocked at from a quarter of a million to two and a half millions of dollars, the stock thrown upon the market at merely nominal figures, and sold to unsuspecting mechanics, tradesmen, and others, who think they see in the glittering generalities of the company's prospectus a certain fortune for a limited investment. Nine in ten of these schemes are the veriest swindles. In some cases not a single hole in the whole pool had any mineral when the company was formed and no immediate prospect of any. Many of these schemes find their origin in the fertile brain of bankrupt speculators, and the great public pays the penalty for its credulity. The Alpine Silver Mining Company, of Colorado, head-quarters in New York, has 12 mining locations near Leadville (that is, within 12 or 15 miles), stocked at two million dollars. Par value of stock is $10 per share; but they offer 20,000 shares at $1.50 per share, in order to start the thing, no doubt. This is what they say: Three of the leading mines are well opened up, and have at the lowest computation over ten thousand tons of ore in sight. Now, this seems a 'big thing' to the unsophisticated, but that 'ten thousand tons of ore in sight' might not be worth the trouble to smelt it, and there are grave doubts in the minds of many who know the property, first as to the presence of that amount of ore, and second as to its value as mineral. Three other new companies have been formed recently, one of which at least I know has no basis whatever to rest upon. The 'six mines' it claims to control have not an ounce of mineral, and never have had. Whether they ever will reach it, remains to be seen. Their location is not the best in the camp by any means, and today they are nothing but simple 'prospect-holes.'"

SAN FRANCISCO MINING STOCK QUOTATIONS.

Daily Range of Prices for the Week.

NAME OF COMPANY	CLOSING QUOTATIONS. April 25.	April 26.	April 28.	April 29.	April 30.	May 1.	Opening. May 2.
Alpha	19⅛	19¼	19⅞	19¼	18¾	19	19
Alta	6⅛	6⅜	6½	6	6⅜	6¼	6½
Argenta	....	....	....	....	....	....	....
Bechtel	....	....	....	....	....	....	....
Belcher	5¾	5⅞	5⅜	5¾	5⅜	6	6½
Belle Isle	....	....	....	....	....	....	....
Benton	....	....	....	....	....	....	....
Best & Bel.	16	16⅝	16¾	16½	16⅞	16½	16¾
Black Hawk	....	....	....	....	....	....	....
Bodie	8¾	9½	9	8⅝	9	9½	....
Booker	....	....	....	....	....	....	....
Bullion	5¼	5⅛	5⅜	5⅛	5¼	5¼	5¼
Bulwer	....	....	....	....	....	....	....
Caledonia	2	....	....	....	....	2	2
California	6¾	6⅞	6⅞	6⅞	7	7	7
Chollar	5¾	6	6½	5⅞	6	5⅞	6⅛
Confidence	13¾	....	....	....	....	15	....
Con. Imp	1½	1½	1½	....	....	1⅜	1.40
Con. Va	6¾	6⅝	6¾	6¾	6⅝	6⅝	6⅝
Crown P'int	5	5	5	5	5⅝	5⅝	5⅝
Endowm'nt	....	....	....	....	....	....	....
Eureka Con	14½	14½	14½	15½	16	17¼	....
Exchequer	5⅜	5⅜	5½	5⅛	5¼	5¾	5½
Goodshaw	....	....	....	....	....	....	....
Gould & Cur	8½	8½	8⅞	8¾	9⅛	9	9⅝
Grand Prize	3¼	3¼	3⅜	3¼	3¼	3¼	....
Hale & Nor.	11¾	12	12⅜	11¾	11⅞	11⅞	12¼
Hamburg	....	....	....	....	....	....	....
Homestake	....	....	....	....	....	....	....
Hussey	....	....	....	....	....	....	....
Indep'd'nce	....	....	....	....	....	2.95	2.95
Jackson	....	....	....	....	....	....	....
Julia Con	3⅞	3⅞	4	3⅞	3¼	3⅝	4
Justice	4	4⅛	4	3¾	3¼	3¾	2½
Kentuck	4⅞	....	....	....	....	....	5
Kossuth	....	....	....	....	....	....	....
Leopard	....	....	....	....	....	....	....
Leviathan	....	....	....	....	....	65c	65c
Manhattan	....	....	....	....	....	....	....
McClinton	....	....	....	....	....	....	....
Meadow Val	....	....	....	....	....	....	....
Mexican	34½	35¼	36	36¾	36	34	38
Mono	....	....	....	....	....	....	....
Navajo	....	....	....	....	....	....	....
North. Belle	7	6½	6¾	7	6⅝	7	....
Ophir	27½	28	28½	32½	35¾	32¼	38¼
Orig. K'ys'e	....	....	....	....	....	....	....
Overman	10	9⅞	10	10	10	9¾	9⅝
P. Sheridan	....	....	....	....	....	....	....
Potosi	....	3¾	4	4	....	3¾	4
Ray. & Ely	4	3⅞	3½	3¾	3½	3½	....
Richer	....	....	....	....	....	....	....
Savage	10	10½	10⅝	10⅝	10⅞	10½	10¾
Scorpion	....	....	....	....	....	2½	....
Seg. Belcher	....	....	....	....	....	25	25
Sierra Nev.	47	48	50	52	52	49	49½
Silver Hill	1¾	....	....	....	....	1¼	1½
Silver King	....	....	....	....	....	....	....
Summit	....	....	....	....	....	....	....
Tioga	....	....	....	....	....	....	....
Tip Top	....	....	....	....	....	....	....
Union Con.	69½	73¼	75¾	74½	75	71½	75
Utah	14¾	....	....	....	....	16	16
Ward	....	....	....	....	....	....	....
Washoe Con	....	....	....	....	....	....	....
Wells Fargo	....	....	....	....	....	....	....
Yel. Jacket	16½	17¾	17¼	17⅛	17	16½	17
....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....

REVIEW OF THE SAN FRANCISCO MARKET.

Our record of prices of San Francisco mining shares shows in but few instances scarcely any improvement on the quotations recorded in our last. If, as believed, this depression is forced by inside manipulators, it is certainly a very powerful influence, and from this point it seems as though the whole mining capital of San Francisco is used for this purpose. It is stated that the shares of nearly all of the important mines which are supposed to contain bonanzas, and it is intimated that the existence of some are known, are being concentrated among the cliques. Alpha, Imperial, Yellow Jacket, Crown Point, Belcher, Challenge, and Confidence are mentioned as the principal stocks which are gradually being taken in and held.

The Sutro Tunnel sub-drain is progressing satisfactorily, and the most active progress is being made in this and all along the Comstock lode.

The joint winze of the Alpha mine is now down about 200 feet on the slope below the 2400-foot level. This stock is unchanged.

Alta has been steady throughout the week. The joint Alta-Benton winze, near the 1750 level, is encountering a fine metal-bearing quartz in its progress.

Argenta anticipates to soon commence milling ore; the ore-body in the west part of the mine, near the Grand Prize mine, is reported as 2 feet in width of ore that samples $250 per ton. This stock has been quite freely dealt in on the San Francisco market at from $1.60 to $1.80 per share.

The Bechtel Mining Company has been quite active in San Francisco at 85c.@$1.40 per share. This company has discontinued stoping for the present, and is confining its operations principally to prospecting.

We have no quotation of Black Hawk. Recent transactions have been made on the San Francisco market, at from $2.05@$2.85 per share. This stock has been a very active one, and it is intimated that the ore-body on the 320 level is a very valuable one.

Belle Isle has been selling on the San Francisco market at 40@50c. Active work is going forward

On the 2560 level of the Belcher Mine, in cross-cut No. 1, quartz is encountered assaying $10 to $12 per ton. The main incline of this mine is now 100 feet on the slope below the 2660 level, and has 70 feet to run to reach the place for the next station. This will be opened in 30 days. This stock opens to-day at the best price of the week, namely, $6¼ per share.

Best & Belcher is well maintained. The drain tunnel in this mine is now in 370 feet, and has over a hundred feet yet to run to connect with the Osbiston shaft.

Bodie opens to-day at the best price of the week. in this mine, with promising indications.

Bullion is steady. Nothing of special interest from the mine.

The old bonanzas are making a very good showing in their bullion output, that from the California for the first 20 days of April amounting to about $235,000, and from the Consolidated Virginia $130,000. The C. & C. shaft is being sunk at the rate of three feet per day.

Caledonia is steady at $2 per share.

Chollar shows an improvement. This company is engaged in repairs to its shaft and contending with water.

Consolidated Imperial is well maintained. The south drift 2600 level of this mine has connected with the old workings on the 2400 level of the Yellow Jacket mine.

Consolidated Pacific opens in San Francisco to-day at $2½ per share. The main shaft of this mine is down over 200 feet.

Crown Point shows a slight advance. The cross-cut recently started on the 2500 level of this mine is 127 feet north of the Belcher line. It has not yet reached the vein.

Three feet per day are being added to the length of the north drift, 2400 level, of the Exchequer mine; total length 375 feet. The face is still in soft vein porphyry, carrying stringers of quartz and some water. This stock is very steady.

Eureka Consolidated shows a marked advance at the close yesterday on the previous prices of the week. It is stated that there is enough ore in sight from the sixth to the thirteenth levels of this mine to run four furnaces from six to seven months, and that the ore in the twelfth level carries a high percentage of gold, and is richer than any ever before found in the mine. At other points the mine is looking well.

Gould & Curry opens at the best price of the week, namely $9⅝.

Grand Prize is steady. This company's 20-stamp mill is running smoothly, and the output from the mine is satisfactory. Favorable progress has been made in extending drifts, etc.

Hale & Norcross shows quite an advance.

A very rich strike is reported in the Hillside mine, which is located near Pioche, Nev. This company is now shipping bullion at the rate of $60,000 per month, and recent sales of stock have been made on the San Francisco market at $2@$2.15 per share.

Independence opens to-day at $2.95. The stock has been quite active in San Francisco. The stopes of the mine are looking and yielding well, and the mill running to its full capacity.

Julia has advanced, and opens to-day at $4 per share. On the 2000-foot level of this mine the intense heat is modifying. This level is now entirely free from water. The Sutro Tunnel Company is preparing papers for an injunction to restrain the Julia mine from pumping into the tunnel, though it is reported that an agreement was entered into some time ago whereby the Julia Company was, in consideration of $100,000, to be allowed the privilege of discharging its water into the tunnel.

Justice shows a marked decline. This company is now delivering ore to the Pacific Mill. It is said that a twelve-foot vein of high-grade ore has been discovered at the south end of this mine at a depth of 100 feet from the surface. Some of it assays as high as $900, but most of it will probably yield about $80 or $90 per ton. This vein is said to be entirely distinct from the manganese ore-vein, and to contain free milling ore only.

Leopard recently sold in San Francisco at $1.25@$1.70 per share. The ore stopes on the 200 level of this mine are reported as yielding ore of a high grade.

Mexican and Ophir show marked advances, the former showing an appreciation of $4 per share for the week, and the latter over $11 per share, both stocks opening to-day at nearly the same market value, namely, $3,800,000. At the bottom of the incline from the 2300 level of the Ophir mine there are large seams of quartz. The improvement in the stopes on the sixth floor above the 2000 level, going south, continues, and the vein is now over 10 feet wide and swinging round toward the west. The ore is of excellent quality. The joint Mexican upraise, 2100 level, is making two feet per day, and will reach the 2000 level in a short time and greatly improve ventilation.

Martin White, a Nevada mine, shows a gradual improvement on the San Francisco market, the quotation at the close yesterday being $6 per share. Very active work is being done at this mine. The company is making satisfactory bullion shipments, and many improvements are contemplated in the alteration of the mill and furnaces, etc.

Manhattan has recently sold on the San Francisco market at $2.50@$2.90 per share. The *Stock Report*, of April 24th, says:

"A shipment of $12,338 was made from the Manhattan mine last evening. These liberal shipments appear to be of little consequence to stockholders. The working of the Manhattan mine will always remain a mystery to them. How it is that there are no dividends in $200 ore is something which they can not solve. We can not answer them. We hear that movements are on foot for another meeting of dissatisfied stockholders."

Northern Belle is unchanged. This company continues its regular shipments.

North Consolidated Virginia has recently sold in San Francisco at $10 per share. This company is actively engaged in erecting the most extensive hoisting works on the lode.

Overman has receded somewhat. Nothing special from the mine. The O. & C. shaft has reached the 600 level.

Potosi is well maintained.

Raymond & Ely is weaker. Official letters from the mine state that the levels are looking well.

The new bonanzas show marked advances on the prices of a week ago. Sierra Nevada opened at $49½ and Union Consolidated $75. Preparations for working the latter mine are being carried forward on an extensive scale.

The work of straightening the drift between the incline and the east shaft of the Sierra Nevada mine will carry the cut into the ore body for a distance of from 60 to 70 feet. This company commenced suits against the Solid Silver and the Gold Lead Companies to test and quiet title. Both of the defendants have claims on Cedar Hill.

Yellow Jacket is well maintained. The new shaft is down 2450 feet and making rapid progress.

The *Commercial Herald* says of the market: "Though the market for mining stocks has been very weak in the amount of business transacted, still rates have been well

sustained during the week under review, in many instances showing an advance. It can not be questioned but that the present general apathy in all business circles is due to the fear of the possible adoption of the new Constitution, which has been hanging over California like a doom in the estimation of the true and right-thinking people.

"Eureka, Nev., has been visited by a most destructive fire, sweeping away one third of the town, the loss being estimated as high as $1,000,000. All the mining properties have escaped injury, and the bullion product will be uninterrupted. New mining enterprises are springing up all around this rich mineral region. What a bonanza it would be to find a reasonably good deposit of coal in the vicinity of Eureka! It is certainly probable, for one would almost suppose that even some of the best shale formations found there would produce a combustible fuel of great utility."

ASSESSMENTS, with dates when delinquent: Sierra Nevada, $2, May 29th; Yellow Jacket, $1, May 19th; Utah, $2.50; Best & Belcher, $1, May 21st; Crown Point Ravine, 15c., May 20th; Bechtel, 25c., May 26th; Selby Hill, 50c., May 26th; Eagle, 20c., May 20th; Queen Bee, 10c., May 26th; Florence Blue Gravel, 50c., May 22d; Heart Basin Gravel, 30c., May 22d.

NEW INCORPORATIONS.

We note the recent organization of the following companies, in addition to those announced in our issue of March 29th:

A. R. Meyer & Co. Smelting and Sampling Co.		Colo.	$200,000
Belcher and Grand Central Mining Co.		"	2,000,000
Cedar Hill Mining Co.		"	3,000,000
Colorado Southern RR. Co.		"	200,000
California Tunnel Co.		"	500,000
Crystal Park Mining and Smelting Co.		"	1,000,000
Emmett Gold and Silver Mining Co.		"	1,000,000
Empress Mining Co.		"	500,000
Gilpin County Mining Co.		"	100,000
High Line Mining and Prospecting Co.		"	20,000
Pennsylvania G. & S. Mining Co.		"	2,500,000
Bulwer Cons. Mining Co.		Cal.	10,000,000
Bondman G. & S. Mining Co.		"	2,500,000
Central Star	" "	"	2,000,000
Monte Cristo Cons.	" "	"	1,000,000
North Bulwer G. & S. Mining Co.		"	10,000,000
North Standard	" "	"	10,000,000
Brophy & Dale G. & S. Mining Co.		Nev.	
King Mining Co.		Ariz.	10,000,000
Montezuma G. & S. Mining Co.		Mex.	50,000
Gopher Cons. Mining Co		Dak.	10,000,000

Copper and Silver Stocks.

Reported by WILSON W. FAY & Co., Brokers in Mining and Miscellaneous Stocks, Room 7, Traveller Building, 31 State street.

BOSTON, Thursday Evening, May 1, 1879.

The week has been marked by a decided rise in the copper stocks, which promises to be more than temporary; all the stocks in the list being affected by it and causing an active speculation in them.

The main cause of the present rise is an advance in the price of copper, assisted by the unusual speculative feeling in the whole market; and there is a feeling of confidence that the war in Chili will tend to still further advance the price of copper and cause the most active season in these stocks that we have had for years. The fact that the small stocks which have been apparently dead for so long are reviving and re-appearing on the market is sufficient evidence of the strength of the present movement.

Calumet & Hecla has sold up to 178, and closes strong at 177½ bid, and 178½ asked.

Central has been in demand at 23, and offered at 25, and no sales.

Copper Falls sold at 17c., assessment unpaid, and closes firm, at 17@20c.

Franklin advanced rapidly from 6 to 8½, all the stock that was offered below that figure being freely taken, and closes strong at 8¼@8¾.

Humboldt sold up to ⅝, and also closes firm at ¼@⅝.

Osceola has sold up to $15, and closes, with little stock offering, at 15@15½.

Pewabic remains quiet amid the general excitement, at ⅝@⅞.

Quincy advanced to 13, closing somewhat lower, though firm, at 12@12¼.

Ridge jumped to 1¾, and sold freely at that figure, and then declined to 1⅝, and closes firm at 1⅝@1½.

Superior sold at 10c. and 15c., and closes at about those figures.

Duncan has advanced to 4 15-16, and closes strong at 4 15 1 @5 and will probably advance still further.

International has sold at ⅝, large lots being taken off the market, and looks as though the stock was being quietly bought up; and will probably see high r figures.

Silver Isle t advanced to 58, and fell off to 57@57½.

Sullivan is q iet at about 8½@9.

Al ar is weak at 1¾@1⅞, and sales at 1⅞.

Malachite is also weak, having sold down to $1, and closes at 1@1⅜.

Commonwealth is quiet at 60@70c., there being some talk of of building a mill for the company and the stockholders are consequently afraid of an assessment.

Franklin Copper Mining Company—Annual Report.—From the Houghton *Mining Gazette* of April 24th we condense the following, concerning the operations of this company during the past year:

"From the Director's report we learn as follows:

Yield of mine for year ending December 31st	3,162,040 lbs.
Yield of mineral average	82·181 per cent.
or in ingot copper	2,599,073 lbs.
Total number of tons mined	133,163 tons
" " " hoisted	121,357 "
" " " stamped	96,358 "
" " " rejected	24,999 "
Average cost of breaking and delivering to stamps	16·13 cents
Average number of men employed by the month	447
Average cost of stamping per ton	68 cents
Average tons stamped per cord of wood	10·58

The agent says: "The openings made in the mine during the past year were as under:

Sunk in shafts	331·5 feet.
Sunk in winzes	485·8 "
Drifted	2,510·2 "
Amount of ground broken by stopes	7,320·783 fms.
Openings reduced to fathoms	512·293 "
Total fathoms broken	7,833·166 fms.

which yielded 133,163 tons of rock, of which 121,357 tons were hoisted, leaving in the mine, of the rock broken in the last year, 11,086 tons.

Number of tons of rock stamped	96,358
Number of tons of rock rejected	24,999

or 20 per cent of the amount hoisted. The total cost of manipulating a ton of rock that was hoisted is $2.71 against $3.03 for 1877, making a saving for 1878 of 32 cents per ton. For the ensuing year we expect to reduce the expense of handling our rock still further, which will enable us to compete with this unprecedentedly low price for our products. No. 2 shaft has been sunk from the 17th to the 18th level. The lode, or rather the portion that the shaft was sunk in, which is near the hanging-wall, has not exhibited very much copper in any part of the distance sunk. The foot-wall portion of the lode will doubtless prove to be more productive, as the stope at the 18th level seems to indicate. The 18th level has been opened south of the shaft 60 feet and north of same 35 feet; the lode has a good appearance, but the drifts so far have not shown any copper of value; but the stope that is now cutting out the foot-wall part of the lode is showing it to be large and productive in stamp and a little barrel copper. We regard the general appearance of the lode at this point to be much better than any thing we have seen at this shaft since we left the 15th level.

"Had the price of copper remained as it was when we started here in 1874, our prospects for the future would be all that we could reasonably expect. But we expect to increase our product without materially increasing our expenses, and if ingot copper will average 15½ cents per pound, we can, if the mine continues as it now seems to indicate, doubtless make a fair profit for the ensuing year. I have been extremely unfortunate during the past year in losing two of my assistants, and the third, from all appearances, will soon have to pass from our midst."

Gas Stocks.

NEW YORK, Friday Evening, May 2, 1879.

The market is dull, with every prospect of remaining so for some weeks to come. Prices are lower, and the whole list shows a tendency to decline. During the week the following changes have occurred: Mutual from 70 to 67; New York, from 100 to 98; Metropolitan, from 120 to 115 bid; Citizens' Gas Co. of Brooklyn has advanced from 70 to 75. The New New York Gas Co. has declared a dividend of 4 per cent. Interest on the certificates of the Nassau Gas Co. of 3½ per cent is due.

Vicksburg (Miss.) has reduced the price of gas from $4.50 to $4 per 1000 feet.

The Northern Liberties Gas Co. will hold an election for two trustees on the 13th inst.

The Citizens' Gas-Light Co., of Warsaw, Mo., has reduced the price of gas to $3 per 1000 feet.

The Excelsior Coke and Gas Co., of Topeka, Kan., has reduced the price of gas from $4 to $3 per 1000 feet.

Rochester pays $9518.06 for the care, lighting, etc., of its kerosene lamps, or at the rate of $5.51 per lamp per annum.

Coupons will be paid on the bonds of the People's Gas-Light and Coke Co., of Chicago, and the Yonkers Gas-Light Co.

The Electric Light at Leadville.—It is proposed to introduce the electric light into the Little Pittsburg mine at Leadville, Colo.

The New Orleans Gas Co. has published a statement of the cost of gas, which was done for the edification of dissatisfied consumers. The capital of the company is $3,750,000.

The Electric Light in Cleveland, Ohio.—CLEVELAND, OHIO, April 30.—The regular lighting of Monmouth Park with electricity began in this city last night. There are twelve electric lamps used in place of 110 gas-burners.

Burlington, Vt., has been dissatisfied with its rates for street lamps, and has received a report on street-lighting from a committee of the Board of Aldermen. All the gas companies of Massachusetts have been authorized by the State to furnish steam or hot water for heating, cooking, or mechanical power.

The following list of Companies in New York and vicinity is corrected weekly by GEORGE H. PRENTISS, Broker and Dealer in Gas Stocks, No. 30 Broad street, New York:

COMPANIES IN NEW YORK AND VICINITY.	Capital Stock.	Par.	DIVIDENDS. Rate per ann.	DIVIDENDS. Am. of last.	DIVIDENDS. Date of last.	QUOTATIONS Bid.	QUOTATIONS As'd.
	$		P. ct.				
Mutual, N. Y.	5,000,000	$100	6	1½	Apr., '79	77	78½
" Bonds.	90,000	1,000	6	3½	Feb., '79	99	102
N. York "	4,000,000	.....	8	4	May, '78	98	101
Metrop. "	2,500,000	100	10	5	Feb., '79	115	122
" Certfs.	1,000,000	.....	7	3½	Feb., '79	100	102
Harlem "	1,850,000	50	6	3	Feb., '78	40	50
Manhat. "	4,000,000	50	....‡	5	Feb., '79	180	190
Brooklyn, Bkln.	2,000,000	50	15	5	Jan., '79	139	142
Nassau	1,000,000	25	....‡	3	Jan., '79	70	80
" Certfs.	700,000	1,000	7	3½	May, '79	90	95
People's	1,000,000	10	....‡	3½	Jan., '76	28	30
" Certfs.	300,000	1,000	7	3½	Jan., '79	75	80
" Bonds.	325,000	.....	7	3½	Dec., '78	90	96½
Metrop. "	1,000,000	100	5	2½	Nov., '78	59	62
W'msb'g "	1,000,000	50	8	1½	Jan., '79	80	90
" Certfs.	1,000,000	.....	7	3½	Jan., '79	90	95
Citizens'	1,200,000	20	....‡	3	Jan., '79	75	80
" Certfs.	320,000	1,000	7	3½	Apr., '79	90	1 0
J. C., N. J.	750,000	20	10	7½	Jan., '79	140	150
Municipal, N. Y.	466,000	50	.....	.....	.....	110	120
" Bonds.	750,000	.....	.....	.....	.....	95	...
.....	.....	.....	.....	.....	.....	.....	...

NOTICE.

RICHARD P. ROTHWELL, MINING ENGINEER and Managing Editor of the ENGINEERING AND MINING JOURNAL, is now making an extended tour through the Mining Regions of the West, including Montana. Until about the 25th of May, his address will be the Walker House, Salt Lake City; but parties desiring his professional services can obtain information at this office, and be put in communication with him by telegraph at any time.

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DIVIDENDS.

OFFICE LEADVILLE MINING COMPANY,
NO. 57 BROADWAY.
NEW YORK, April 24, 1879.
DIVIDEND NO. 2.

The Board of Trustees have this day declared a dividend of ONE PER CENT on the capital stock of this company ($2,000,000), out of net earnings, payable at the office of the company on and after May 7th, 1879. Transfer-books will close on May 2d, and reopen May 9th.

J. S. LOCKWOOD, Secretary.

MEETINGS.

NEW YORK, April 15, 1879.

THE ANNUAL MEETING OF THE STOCKholders of the ADLAIDE CONSOLIDATED SILVER MINING & SMELTING COMPANY, OF LEADVILLE, COLO., for the election of Trustees, and such other business as may legally come before the meeting, will be held in accordance with the requirements of the certificate of incorporation, at 12 O'CLOCK, at 611 F Street, in the CITY OF WASHINGTON, D. C., on the SECOND TUESDAY (13th) of May, 1879. Polls open from 12:30 to 2 o'clock. Transfer Books will be closed on Tuesday, April 29th, at 3 P.M., and be re opened on Thursday, 15th day of May, 1879, at 10 A.M.

By order of Executive Committee.
WM. H. BARNARD, Secretary.

COPP'S U. S. MINING DECISIONS.—Gives in full the Mining Laws of July 26th, 1866; July 9th, 1870, and May 10th, 1872, with all the Circular Instructions and Important Decisions thereunder down to April, 1874. 8vo, law sheep; pages 351. $4.50.
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OF BLACK HILLS, DAKOTA TERRITORY.

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CAPITAL STOCK, $1,000,000. PAR VALUE OF SHARES, $5.

FOREVER UNASSESSABLE.

R. P. CORMACK,.....President | D. B. CANOL..Vice-President and General Manager,
R. McNAUGHT.....Secretary and Treasurer | Deadwood, D. T.

This mine is situated in the heart of the Black Hills, and on the acknowledged richest gold belt on this continent, if not in the world.

The improvements on the mine consist of a shaft 36 feet deep, from which a drift has been run 21 feet, all in paying ore. On a level with the orifice of the shaft a drift has been driven 42 feet, with a northeasterly cross-cut 28 feet 7 inches, from where a back stope was run up to the grass roots, giving a breast of 31 feet 10 inches, and 37 feet wide. Eighty-five feet below the adit a tunnel has been commenced and run 66 feet, and will strike the ore-body at present disclosed at the bottom of the shaft 22 feet lower.

From this work 250 tons of ore have been milled as a test, the lowest being $8.40, and highest $25.60. The work thus accomplished shows at the lowest estimate 10,000 tons of ore in sight.

The Directors have set aside 50,000 shares of stock for the purchase of machinery.

ANNOUNCEMENT.—The 20,000 shares offered at $1 having been all taken, 10,000 shares are now offered at $1.50 per share until further notice. In this connection the Company begs to announce that it has purchased the Hoodlebug Mine, a property adjoining the Cheyenne, and of great proven value.

We respectfully invite the closest scrutiny and most searching investigation into the merits of this property.

R. P. CORMACK, President. R. McNAUGHT, Secretary,

Office, 61 Broadway, Room 38, New York.

THE BUELL GOLD MINING CO.,

OF COLORADO,

To be organized under the laws of the State of New York, with a capital of $500,000, divided into 100,000 shares of $5 each, full paid and unassessable. 50,000 shares of said capital will be set aside to provide funds for the further development of the property, of which 40,000 shares are now offered to subscribers at $1.25 per share.

On a Basis of $125,000 for the Property, with $50,000 Cash and 10,000 Shares in the Treasury.

There are 3000 feet on the Leavite, Kip, and Vasa lodes, all covered by United States Patents.

The improvements on the property consist of a 60-stamp mill complete, with an 80 horse-power engine for driving the same; also a 70 horse-power engine for hoisting and pumping, all in first-class condition, and inclosed in substantial stone buildings. The "Buell Mine" has produced nearly a million dollars in bullion, and is well known as one of the best gold mines in the State.

Subscriptions to the stock are received by R. H. RICKARD, No. 30 Pine street, New York.

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